GEOLOGICAL AND GEOCHEMICAL SURVEY OF THE TROITSA PEAK (NORTH) AND TROITSA PEAK (SOUTH) CLAIM GROUPS, OMINECA MINING DIVISION, BRITISH COLUMBIA.

	Troitsa Peak (North) Group	Troitsa Peak (South) Group
Claims:	TROITSA 1, TROITSA 2, TWISTED KNEE, P.S.	WIND TUNNEL, WHITESAIL, CUMMINS SOUTH, CUMMINS NORTH, JESSE
Record Numbers:	4329, 4366 4363, 4364	4362, 4365 4569, 4570 4571
Mining Division:	Omineca	Omineca
NTS:	93E/11E	93E/11E
Latitude:	53°35'N	53°33'N
Longitude:	127°05'W	127°03'W
Owner and Operator:	UNION CARBIDE CANADA LTD.	UNION CARBIDE CANADA LTD.

REPORT PREPARED BY: N. G. CAWTHORN

DATE: December 15, 1982

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GEOLOGICAL AND GEOCHEMICAL SURVEY OF THE TROITSA PEAK (SOUTH) CLAIM GROUPS, OMINECA MINING DIVISION, BRITISH COLUMBIA.

INTRODUCTION

Location and Access

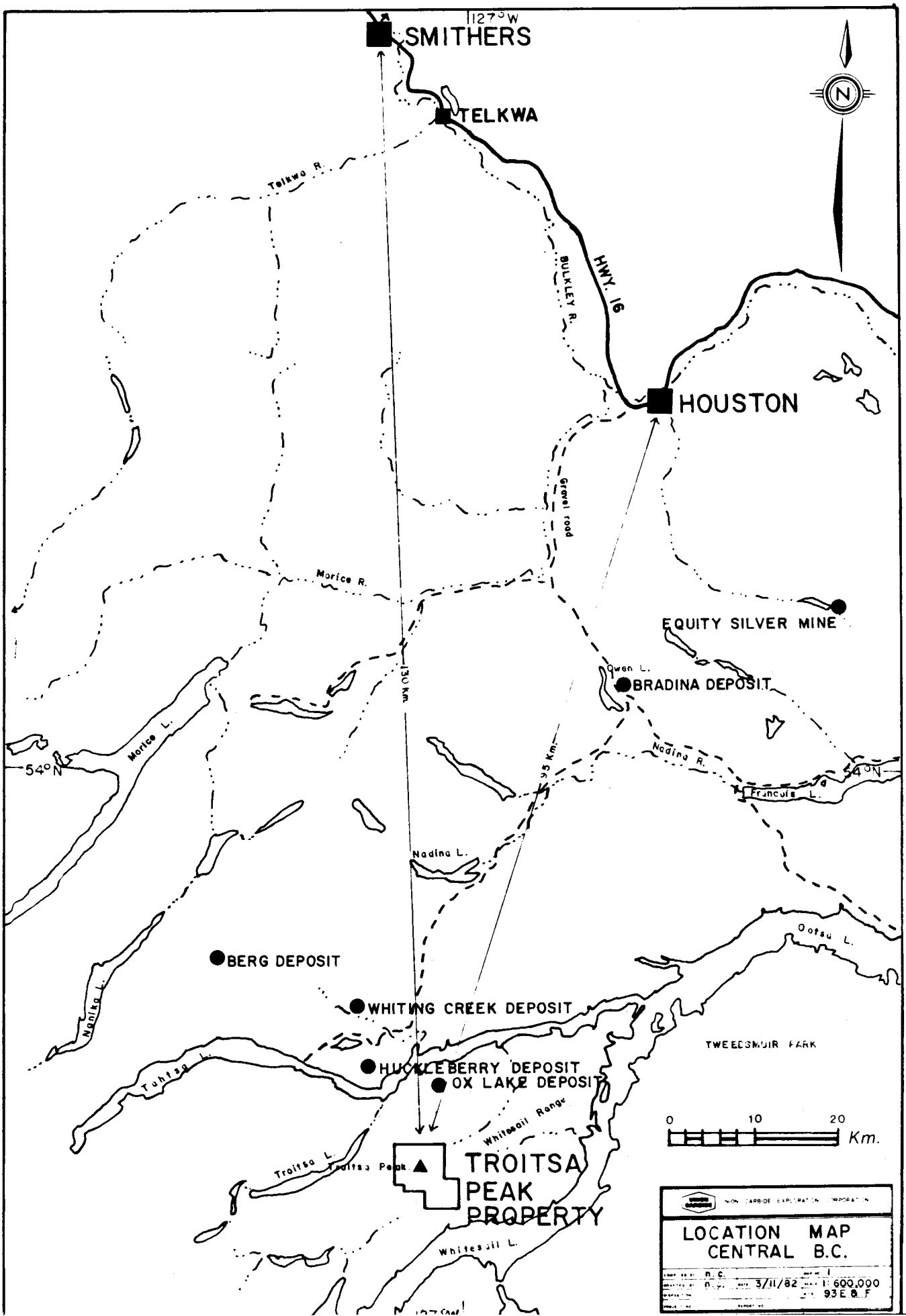
The property is located in the Whitesail Range of Central British Columbia (NTS Map Sheet 93E/11E) on the eastern flank of the Coast Range. It is approximately 130 km south of the town of Smithers and 95 km west-southwest of the town of Houston.

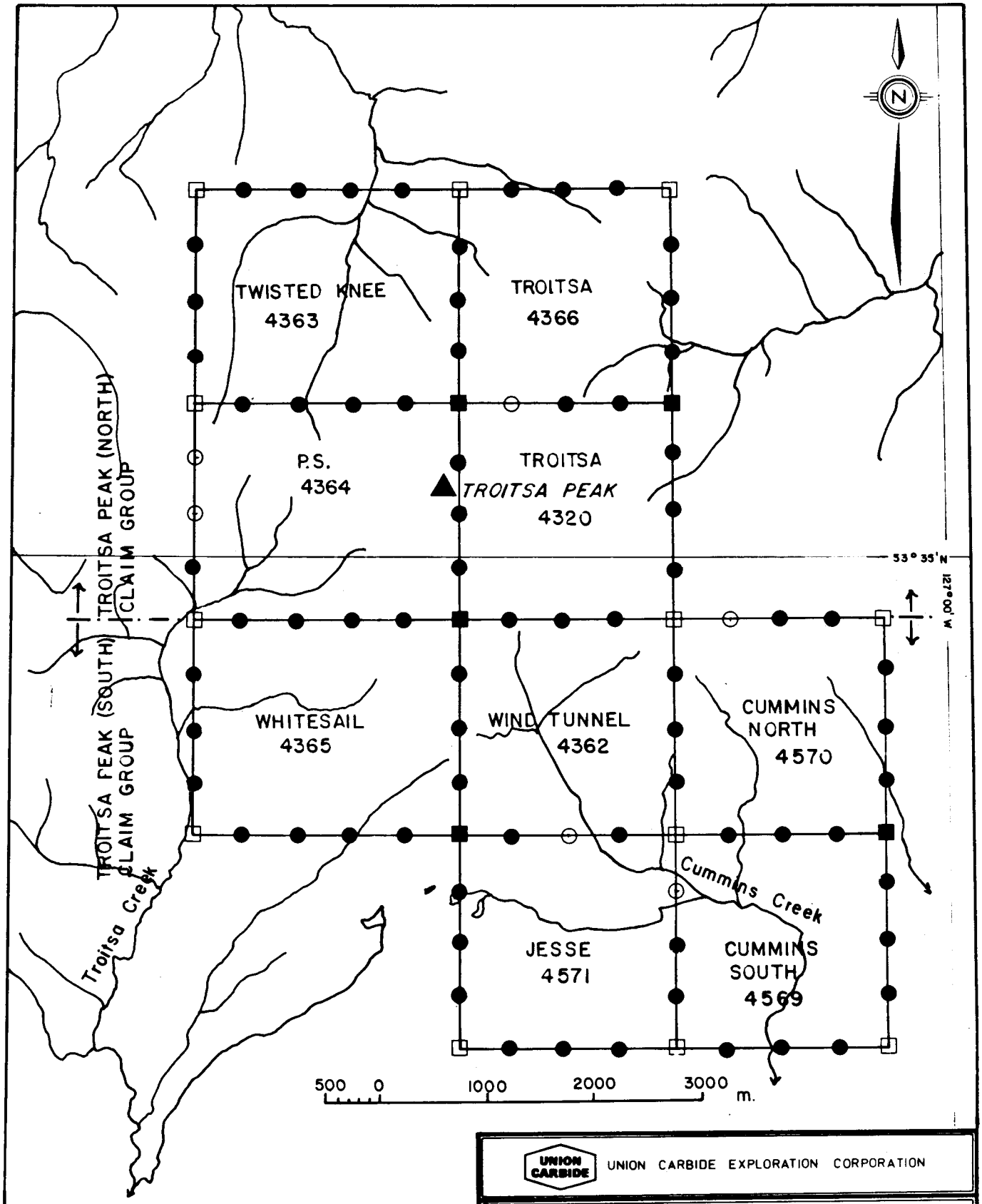
Access to the property is by helicopter from Houston or Smithers. Alternative access is by approximately 55 km of paved highway from Smithers to Houston, 49 km of all-weather gravel road south from Houston to Owen Lake, then by 60 km of seasonal gravel road south-west to the eastern end of Tahtsa Lake and finally 15 to 25 km south-east by helicopter to the property.

Map 1. shows the general location of the property at a scale of 1:600,000 and Map 2. is an index map showing the specific location of the claim block at a scale of 1:50,000.

Physiography

The property is approximately centred around Troitsa Peak, the highest point in the Whitesail Range, which attains an elevation of 2,089 m. Elevations fall away rapidly north of the peak and more gently to the south. Lowest elevations within the claim block are approximately 1,000 m in the extreme south-east of the claims. A predominantly radial drainage pattern is developed around Troitsa Peak. Tree line is generally at about 1,400 to 1,500 m elevation within the claim block.


127°W
SMITHERS
TELKWA
HOUSTON
HWY. 16
BULKLEY R.
Telkwa R.
Gravel road
Morice R.
Morice L.
54°N
130 km.
95 km.
EQUITY SILVER MINE
Owen L.
BRADINA DEPOSIT
Nadina R.
54°N
Francois L.
Nadina L.
Ootsa L.
BERG DEPOSIT
Maxinkuckwa L.
WHITING CREEK DEPOSIT
Tahtsa L.
HUCKLEBERRY DEPOSIT
OX LAKE DEPOSIT
TWEEDSMUIR PARK
Whitesail Range
Troitsa L.
Troitsa Peak
TROITSA PEAK PROPERTY
Whitesail L.
0 10 20 Km.
LOCATION MAP
CENTRAL B.C.
3/11/82
1: 600,000
93E & F



UNION CARBIDE EXPLORATION CORPORATION

LOCATION MAP
TROITSA PEAK CLAIM GROUP

COMPILED BY N.C.			MAP NO 2
DRAFTED BY N.C.	DATE 3/11/82		SCALE 1:50,000
DISPOSITION			N.T.S 93E/11E
PROJECT NO	REPORT NO		

Property History

A regional geochemical and prospecting reconnaissance programme was initiated by Union Carbide in the Whitesail Range area of Central British Columbia during the 1981 field season. The Troitsa 1 claim (16 units) was staked and recorded in October of 1981 on the basis of the results of this reconnaissance program. Subsequently a further 8 claims (140 units) were staked in late 1981 and early 1982. The work described in this report was carried out on these 9 claims (156 units).

At the close of the 1982 field season a further two claims were staked adjoining the western boundary of the claim block but these are not presently included with the Troitsa Peak claims for assessment purposes. There is no record of any previous claims in this area.

Claim Data

The property comprises 9 claims, totalling 156 units, staked in late 1981 and early 1982. The property has been divided into two claim groups - the Troitsa Peak (North) group which comprises four claims totalling 72 units, and the Troitsa Peak (South) group which comprises five claims totalling 84 units. The claim data for the two groups is as follows:

Troitsa Peak (North) Claim Group

Claims:	Troitsa 1.	Troitsa 2.	Twisted Knee	P.S.
No. of Units	16	16	20	20
Record No:	4329	4366	4363	4364
Date of Recording:	21/10/81	13/11/81	13/11/81	13/11/81
Expiry Date:	21/10/82	13/11/82	13/11/82	13/11/82

Troitsa Peak (South) Claim Group

Claims:	Wind Tunnel	Whitesail	Cummins South
No. of Units:	16	20	16
Record No:	4362	4365	4369
Date of Recording:	13/11/81	13/11/81	22/04/82
Expiry Date:	13/11/82	13/11/82	22/04/83

Claims:	Cummins South	Jesse
No. of Units:	16	16
Record No:	4370	4371
Date of Recording:	22/04/82	22/04/82
Expiry Date:	22/04/83	22/04/83

All the claims are owned and operated by Union Carbide Canada Ltd.

Economic Assessment

Exploration of the Troitsa Peak property, including geological mapping and geochemical analyses, has shown the presence of highly anomalous precious metal values. Grab samples have been collected which have returned assay values of up to 1.366 oz/ton Au and up to 79 oz/ton Ag indicating the potential for a deposit of ore grade on the property. Mapping shows the precious metal values to be associated with quartz veins of sufficient size (widths up to 4 m and exposed lengths of over 100 m) to show their potential as hosts for metal deposits of economically mineable dimensions. Mapping also shows the anomalous precious metal values to be associated with quartz veinlet stockworks and hydrothermal

alteration zones, often with associated lead, zinc and copper mineralization. The stockworks and alteration zones are of sufficient dimensions (diameters of several hundred metres) to indicate a potential for bulk-tonnage precious metal deposits.

Mapping also shows that the geological environment - a high-level sub-volcanic intrusive (and also extrusive) complex of intermediate composition intruded into sedimentary and volcanic marine and non-marine strata - is one which is suitable for the formation of epithermal type precious metal deposits.

It is concluded that the property has excellent potential for the discovery of a gold and/or silver (possibly also with associated base metal values) vein-type or bulk-tonnage deposit of economically mineable proportions. It is strongly recommended that a program of detailed mapping, trenching and sampling of the known showings, together with further mapping and geochemical surveying of the property as a whole, be undertaken during the 1983 field season.

Summary of Work

A geochemical survey was undertaken on the property. Rock geochemistry was carried out on all claims in the two groups and limited silt geochemistry was carried out throughout the whole property. Detailed soil geochemistry was carried out on parts of the Troitsa 1, Troitsa 2, P.S., Whitesail and Wind Tunnel claims. A total of 828 rock samples were collected - of these 577 were analysed by atomic absorption methods for gold and silver, 179 by atomic absorption for gold and mercury and by induction coupled plasma for 30 elements, and 72 by atomic

absorption for gold and silver and by ICP for 30 elements (in addition 65 samples were also assayed for gold and silver). A total of silt samples were collected and all were analysed by atomic absorption for gold and mercury and by ICP for 30 elements. A total of 545 soil samples were collected of which 383 were analysed by atomic absorption for gold and mercury and by ICP for 30 elements and 162 were analysed by atomic absorption for gold and silver.

Geological mapping of the property at a scale of 1:10,000 was undertaken. The property totals approximately 39 square kilometres in area. The whole property, except the southernmost parts of the Jesse and Cummins South claims which are densely forested and have little outcrop, was mapped. The total area mapped was approximately 35 square kilometres.

Preparatory to the geological and geochemical surveys a topographic base map at scale of 1:10,000 was prepared. The base map covers the area of the claims and the immediate vicinity -- an area of 63 square kilometres.

The above work was carried out on all claims of the two groups. The claims are listed in the preceding section on claim data.

The costs of the work carried out are itemized in Appendix 1.

GEOLOGY

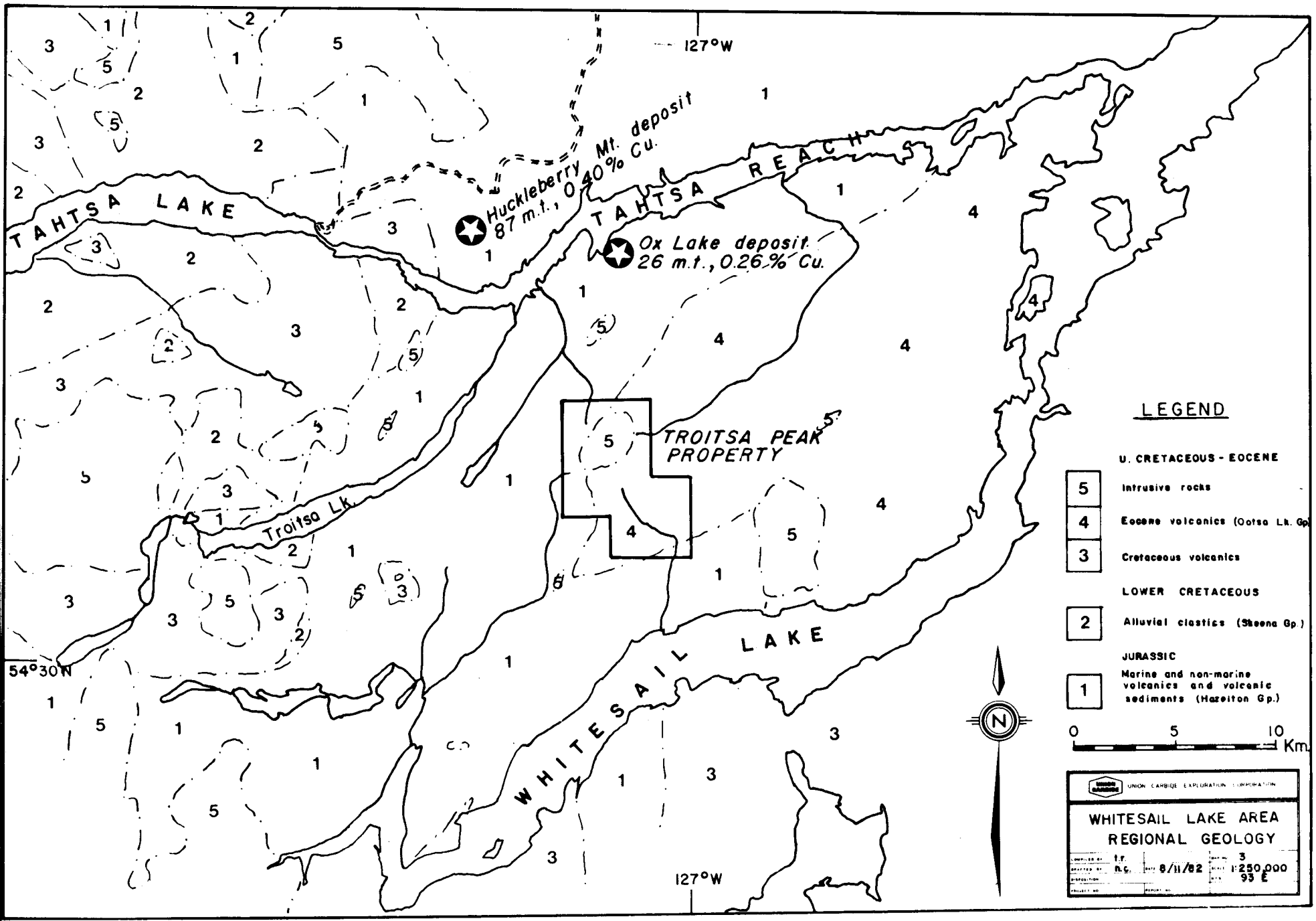
Regional Geologic Setting

The geology underlying and neighbouring the Whitesail Range comprises three main units (Map 3), and older, marine volcanic-sedimentary assemblage of the Jurassic Hazelton Group, an alluvial and shallow-marine fluvitile assemblage of the Cretaceous Skeena Group, and a latest Cretaceous-Eocene continental volcanic assemblage, here called the Ootsa Lake Group. Intrusive rocks are usually coeval with the latter assemblage.

The Jurassic Hazelton Group volcanics cover an immense region in the Intermontane Belt, extending from latitudes 51°N to 58°N, and comprises a vast array of marine and non-marine calc-alkaline volcanics. It is typically a well bedded sequence of ash to lapilli-tuff, breccias and flows of general andesite-dacite composition, ranging from rhyolite to basalt.

The Cretaceous Skeena Group comprises micaceous-chert-quartz sandstone, siltstone and shale that occur in fault-preserved pockets throughout the Intermontane Belt, but not in the Whitesail Range.

The later volcanics of the Ootsa Lake Group fall into two categories. A latest Cretaceous, calc-alkaline suite of calc-alkaline volcanics typified by massive hornblende-feldspar dacite porphry tuff, breccia and flow, but includes ash and flow rhyolite with minor basalt and andesite. These rocks underlie the area west of the Whitesail Range. An Eocene suite, encompassing most of the Whitesail Range, comprises rhyolite to basalt flow, breccia and tuff associated with high-level porphyry intrusives.



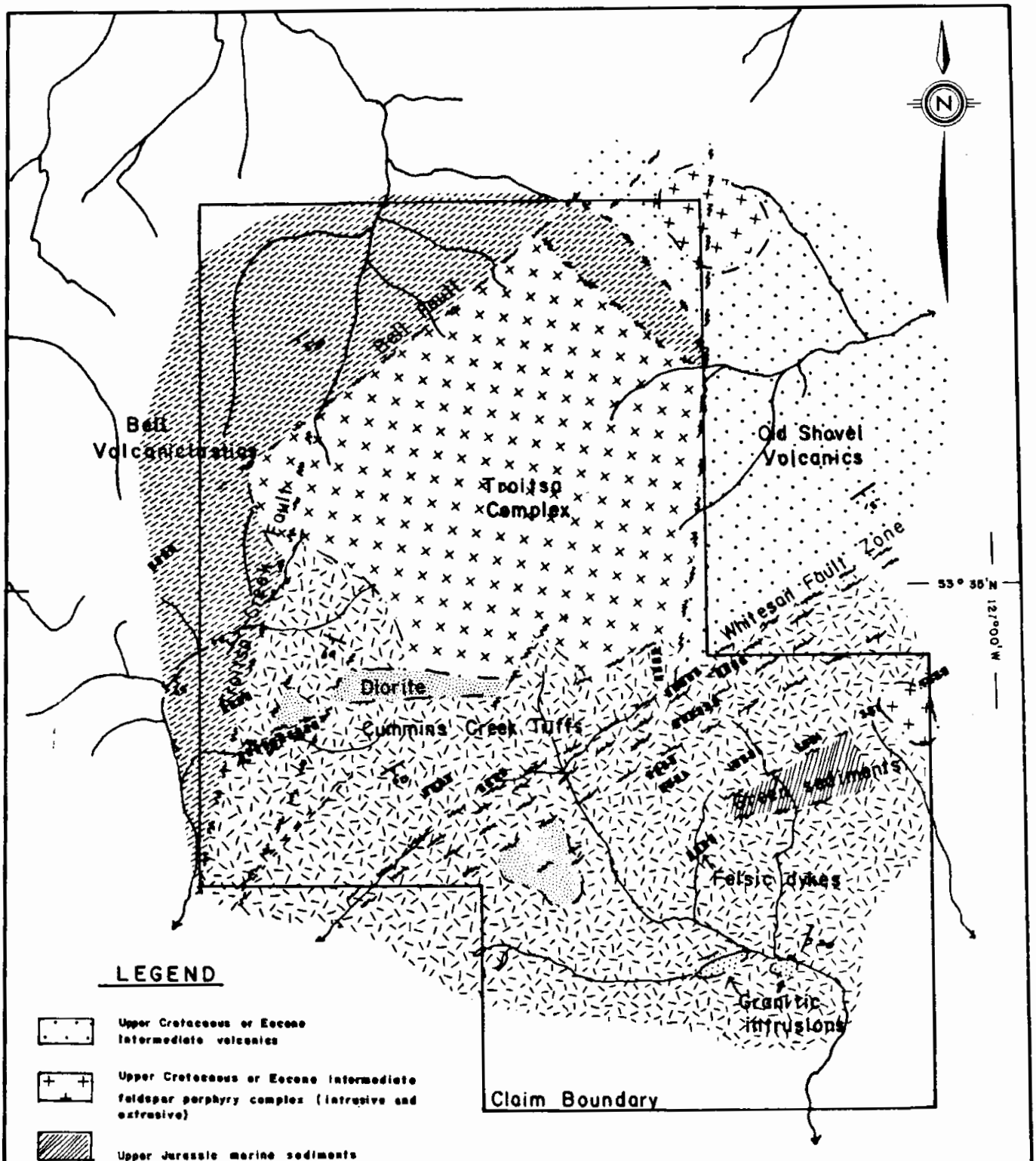
Based on G.S.C. Open File Map "Geology of the Whitesail Lake (93E) Map Area, B.C."; 1:250,000; by G.J. Woodsworth; 1980: OF708

Property Geology

The geology of the claims area, as mapped during the 1982 field season, is shown in Map 4 at a scale of 1:50,000. This has been generalized from the more comprehensive geological map constructed at a scale of 1:10,000, which accompanies this report (Map 5). Five major lithological units have been recognized, and their ages interpreted as follows:

1. Old Shovel Volcanics. These are flat-lying to gently south-dipping, maroon feldspar porphyritic, flows and flow breccias of intermediate composition, exposed in a fault-bounded region in the northeast part of the map area. These volcanics are thought to belong to either the upper Cretaceous Kasalka group, or to the Eocene Ootsa Lake group.

2. Troitsa Complex. This composite unit forms a morphological dome coring the mountain, and consists of grey-green feldspar-porphyritic imtermediate intrusive material, hypabyssal dikes, and consanguine extrusive phases, including welded tuff, hetero-lithic breccia and flows. Pink feldspar- and biotite-porphyritic granite occurs in the eastern part of the complex. The various phases comprising the complex have not been differentiated in Map 4, although their distribution is shown on the 1:10,000-scale map. Compositional and textural similarities between the Troitsa intrusive rocks and the Old Shovel volcanics suggest a genetic relation and coincidence of age, with the Old Shovel lavas representing a downfaulted block now juxtaposed against the feeder intrusives.


N
Bell Volcaniclastics
Bell Fault
Troitsa Complex
Old Shovel Volcanics
Whitesail Fault Zone
53° 35'N
127°00'W
Diorite
Cummins Creek Tuffs
Felsic dykes
Granitic intrusions
Claim Boundary
LEGEND
Upper Cretaceous or Eocene intermediate volcanics
Upper Cretaceous or Eocene intermediate feldspar porphyry complex (intrusive and extrusive)
Upper Jurassic marine sediments
Mid-Jurassic dominantly marine volcaniclastics and sediments
Lower Jurassic continental volcanic tuffs
Diorite dykes and plugs
Granite plugs
Felsic dykes (including aplites and quartz porphyries)
Fault
Geologic contact
Bedding foliation
0
10
20
Km
TROITSA CLAIM GROUP
GENERAL GEOLOGY
10/11/82
1:50,000
93E/11E

3. Green Sediments. These are fossiliferous, shallow-marine sandstones, shales and conglomerates exposed only in a small area in the southeast part of the claims. These sediments are probably part of the Ashman formation of upper Jurassic age.

* 4. Bell Volcaniclastics. This group, exposed in the west and northwest part of the area, includes dominantly marine, well-bedded greywacks, tuffs, sandstones and cherts, with minor limey and shaley components. The group is thought to be part of the upper Hazelton Group of middle Jurassic age.

* 5. Cummins Creek Tuffs. Underlying most of the southern half of the area are dominantly subaerial, maroon and grey, lapilli tuffs and minor ash tuffs, dipping to the east and southeast, called the Cummins Creek group. The character of this unit resembles the lower Jurassic portion of the Hazelton group, particularly the Telkwa formation. These tuffs are intruded by diorite dikes, sills and plugs, and by felsic dikes, including pink aplites and buff-coloured quartz-eye porphyries. Coarser pink granites occur in the southern part of the area. The Cummins Creek rocks have been intensely shattered and altered along the kilometre-wide Whitesail Fault zone.

In the remainder of the geological report, the five lithological packages will be referred to by the local names listed above, rather than the interpreted stratigraphic identities. The characteristics and relations of the rock units are discussed in more detail in a later section of the report, which is written in reference to the 1:10,000 scale map.

The rocks of the Whitesail range contain an unusually high amount of hydrothermally-precipitated silica, indicating a large and persistent fossil hot spring system, active throughout the map area, and throughout the vertical exposure visible in the map area. For example, the Old Shovel volcanics contain abundant agate, and both the Cummins Creek tuffs and the Bell volcaniclastics contain numerous quartz vein systems. It is these systems that host the precious metal mineralization which has been the focus of exploration. Alteration is common, and commonly pervasive, including propylitic (chlorite-epidote-pyrite-clay minerals) and argillic (kaolin-sericite-clay minerals) of Cummins Creek tuffs near mineralized quartz veins, carbonate veins and disseminations throughout the Whitesail Fault zone, zeolitization of the Cummins Creek tuffs in the southeast area, propylitic and argillic alteration of the breccias of the Troitsa complex, and argillic alteration along faults zones in all rock units.

Rock Units:

Detailed description of lithologies mapped on the Troitsa claims.

In this section, the main lithological packages are described in detail with reference to the 1:10.000 scale map that accompanies this report. Observed features are also indicated directly on the map. Note that the precious metal showings, the quartz vein systems, and the sulfide occurrences are not shown on this map but located and described elsewhere.

Old Shovel Volcanics:

This unit is exposed only in a fault-bounded area in the northeast, where it outcrops along two steep north-facing slopes, on several knobs on gentler slopes, and in the Old Shovel creekbed. It consists of flat-lying, to gently south-southeast-dipping flows and flow breccias, whose exposed thickness, assuming no structural repetition, exceeds 500 metres. The lavas are consistently feldspar-porphyritic, often vesicular, and the matrix varies from a fine-grained maroon to a glassy black material in the breccias and thin flows, and to a coarser grey to maroon material in the thicker flows. The breccias consist of rounded blocks, from a few centimetres to a few metres in diameter, of brick-red oxidized lava in a matrix of dark unoxidized lava, or vice versa.

Throughout this unit, and best-developed in the south fork of upper Old Shovel creek and in the hills between the two forks, are abundant and spectacular deposits of amorphous and crystalline silica, forming pods and veins of banded agate cored by drusy quartz crystals. Agate and opal form vesicle fillings in the lavas outcropping on the slope south of Old Shovel creek, usually accompanied by finely-crystalline epidote. Red and yellow jasper veins are found where shown. These features suggest, as discussed further in the section on the hydrothermal system, that the Old Shovel unit represents the upper levels of a fossil hot-spring system that has been down-faulted against the deeper levels containing quartz veins and both precious- and base-metal mineralization, as found in the Cummins Creek and Bell groups. Bright green celadonite and celadonite-stained silica is common along both the Discovery and the Whitesail Fault zones.

In the area of the intersection of the two faults, and along the Whitesail fault, intense argillic alteration with celadonite and kaolin has reduced the rock to crumbled debris.

Altered chaotic breccia, probably of tectonic origin, is found along the Whitesail fault within the Old Shovel lavas. Somewhat more siliceous tuff, which is sheared and veined by quartz and barite, occurs in a canyon in Old Shovel Creek, representing the lowest exposure of this unit. Apart from several lamprophyre dikes along the fault zones, the Old Shovel volcanics are the only rocks within the northeast area bounded by the Whitesail and Discovery faults. A knob of coarse feldspar porphyry, identical to the coarsest phase of the Troitsa complex, outcrops to the north but the contact relations between this and the Old Shovel volcanics is not known, due to poor exposure and lack of detailed mapping in the area.

In general, these Old Shovel rocks are sufficiently uniform in character to be easily recognizable, although some of the coarser material resembles phases of the Troitsa complex. In fact, the overall similarity of these volcanics and the Troitsa intrusive suggests that they are consanguine. Alternatively, the two units may be magmatic products of similar composition but quite different ages, exploiting the same structural conduits and generated by a persistent heat source.

Troitsa Complex:

Central to the claims area is the Troitsa intermediate, feldspar-porphyritic composite plug, consisting of high-level intrusives and

extrusives that can all be confidently considered part of the same magmatic event. These rocks are exposed along the highest ridges surrounding Troitsa Peak, and as small outcrops amongst talus of similar material in the high basins. The fine-grained porphyry phase also occurs as outliers of flows and dikes within the older Cummins Creek tuffs to the south.

At this stage of mapping, five phases of the Troitsa complex are distinguished in the 1:10,000-scale map, although more precise delineation of their contact relations would require more detailed mapping and economic incentive. The phases are:

1. Grey-green, medium-grained intrusive with large (up to 4 cm) pale, randomly-oriented feldspar phenocrysts, which appear rounded in cross-section and bladed in other sections.

2. Blue-grey, fine-grained material with glassy feldspar laths, including banded flows and dikes.

3. Pale grey-green to pink welded tuffs and heterolithic lapilli and ash tuffs.

4. Coarse chaotic heterolithic breccia, containing fragments of all the above rock types, and usually highly altered .

5. Pink feldspar- and biotite-porphyritic coarse miarolitic granite and finer-grained rhyolite.

The first two phases are the dominant rock types exposed on the high slopes and ridges, and are intimately mutually intrusive, with rounded inclusions of coarse material in the finer feldspar porphyry, or - more rarely - the antithetical relation. In some places, the rock texture alternates between the two phases over a scale of only a few metres, and they are not distinguished on the map. These two phases of the Troitsa complex are tight impermeable rocks that have been unaffected by alteration except in the immediate vicinity of mineralized quartz veins and fault zones.

The tuffs (3) and the breccia (4) are exposed as less resistant parts of the high ridges, and as felsenmeer and small outcrops in the basins between ridges. Where attitudes can be observed, they dip shallowly to the southwest, but such proximal pyroclastic deposits are unlikely to have stratigraphic continuity. The chaotic breccias are obviously interbedded with tuffs in some places (well-exposed on the northeast-facing ridge above the southern fork of Old Shovel creek), but their distribution and the explosive nature of the rock texture suggest they also occur as diatreme or vent fragmentals, notably at the headwaters of Cummins Creek. These highly permeable rocks are usually altered with the propylitic or argillic assemblage of secondary minerals, with pyrite and other sulfides common, and this alteration obscures the primary character of the fragments. This rock type partially hosts precious metal mineralization and the Moraine showing, where the breccia is occasionally cemented by amethystine quartz. It should be noted that the felsenmeer present as overburden in many of the basins in the Troitsa peak area consists of the tuff and breccia material, implying that these units are underrepresented in the outcrop area due to their altered, recessive character.

The fifth unit recognized as part of the Troitsa complex, the pink feldspar- and biotite-porphyritic granite, is exposed as a coarse-grained, miarolitic rock in the canyon of the northern fork of Old Shovel creek, and as a finer-grained rock on the ridge northwest of this. The biotites are chloritized and the feldspars often seriticized. Although this rock appears more felsic than the grey feldspar porphyries that make

up the main intrusive, it is probably coeval and has been included with the Troitsa complex.

Green Sediments:

These rocks are a minor and, apparently, economically uninteresting group of fossiliferous, shallow-marine sandstones, shales and conglomerates, exposed along the creek banks in the southeast part of the area. The southern limit of their distribution is not known, but the unit is interpreted to be contained in a wedge-shaped fault block within the extensive Whitesail Fault zone, as discussed further in the section on structural relations.

Bell Group Volcaniclastics:

This unit is exposed along creek beds and the steeper slopes and ridges in the west and northwest part of the claims area. It consists of well-bedded, dominantly marine, immature clastic sediments. Lithologies include black cherts and siliceous argillites, greywackes with abundant lithic rock fragments and (as part of a continuum) slightly reworked tuffs, and fossiliferous sandstones. Pyrite and chalcopyrite are commonly disseminated in most rock types. The rocks that form this unit were identified and grouped together as a package, and detailed sections have not yet been mapped. At this preliminary stage, however, the same general types of lithologies appear to be present wherever the Bell group is exposed.

Bedding attitudes are shown on the map where measured. The numerous

changes in foliation indicated, and others recognized when flying by exposures of Bell group sediments, show that this unit is frequently disrupted by faulting, although these faults are not yet mapped in detail. The discovery, in late August, of a significant precious metal showing (the Ultra) hosted by the Bell group indicates that more careful geological mapping should be done in this unit. Although the structure is not well understood, there appears to be a minimum thickness of about 500 metres. The showing is located in the upper part of the unit.

The Bell group can be readily distinguished from the Cummins Creek group if there is sufficient exposure of a variety of sediment types, although tuffs, especially altered rocks, from both groups resemble each other on a hand specimen scale.

Cummins Creek Tuffs:

This thick package of subaerial lapilli and ash tuffs is found on both sides of the Whitesail Fault zone in the central and west-central part of the area. The exposures are in creekbeds, on banks above creek valleys, on steeper ridges and on a large knob in the southwest corner of the claims. The most common rock type is a maroon, feldspar-porphyritic, heterolithic lapilli tuff, but a variety of textures, including finely-bedded ash tuff, variolitic vesicular volcanic, agglomerate tuff and massive volcanic can be seen. There appears to be no correlation of fragmental style with stratigraphic position, and little would be expected from this type of unsorted, subaerial pyroclastic debris. Most of the material is a distinct maroon, but there is grey tuff on the southwest

knob, and green rocks wherever propylitic alteration occurs, which is common. These rocks are usually crudely bedded, or often the bedding has been obscured by faulting, but the attitudes measured indicate consistent southeast or east-southeast dips, and a strike of 060°, which is parallel to the Whitesail Fault. South of the fault, assuming no structural repetition, this unit has a minimum thickness of 600 metres. Although mineralization occurs throughout this thickness, the large quartz veins with very high gold and silver anomalies, are located in central and lower Cummins Creek, which represents the lowest level of exposure - both within the Cummins Creek group and within the entire area. An obvious priority for further work is mapping and prospecting further south in Cummins Creek.

Much of the Cummins Creek group has been intensely shattered and altered along the Whitesail Fault zone. The alteration pattern consists of zeolites in the southeast, calcite as white pods, veins and disseminations throughout the fault zone, and strong propylitic and argillic alteration adjacent to mineralized quartz veins. In fact, relatively unaltered tuffs are seen only on parts of the southwest knob, and in exposures just west of central Cummins Creek. In particular, the rocks in central and lower Cummins Creek are pervasively propylitically altered, although there is little structural disruption (in the creekbed exposures) south of Chalco Creek.

The Cummins Creek group is intruded, throughout the area, by bodies of feldspar-porphyritic diorite. These bodies are generally, although not always, conformable with the tuffs. They appear to have a genetic

relationship, probably representing hypabyssal sills or thick flows of magmatically similar material. This is particularly evident in the area west of the headwaters of Cummins Creek, where diorite and lapilli tuff alternate frequently, and the diorite contains, in one exposure, lithic fragments similar to those in the tuff. The diorites are also sheared and veined with quartz and calcite in the vicinity of the fault zone.

Felsic dikes are common intrusions within the group, and are probably the most geologically problematic rock type in the area, requiring particular scrutiny in further programs, especially in view of their association with the Flare showings. The only differentiation that has been made at this stage is between pink aplitic rocks and buff-coloured quartz-eye porphyries. The latter also intrude the Bell volcaniclastics and are associated with the Ultra showing. These felsic intrusions have only been delineated in detail in several areas where there is good exposure, and there are probably more than those shown on the 1:10,000-scale map. There are a variety of textures to be seen, including highly fractured, medium-grained aplite, feldspar-porphyritic aplite, and occasionally features that suggest extrusive character, such as spherulitic texture, flow banding, and tuffaceous fragments. They are often associated with quartz veins. As shown on the map, most of the pink felsic bodies strike in a direction parallel to the Cummins Creek tuffs and thus to the Whitesail Fault zone. Usually they are less altered and sheared than the tuffs are in the fault region, which implies that they are younger than the tuffs and probably associated with later

movement along the fault, or this may be (at least in part) a reflection of the more competent character of the material.

A third type of rock intrusive to the Cummins Creek group is pink granite which occurs as small stocks altered pyritized material in the lowest part of Cummins Creek mapped in 1982, and whose age and relation to the other intrusives is yet to be determined.

Structural Relations:

A preliminary glance at the fault pattern in the Whitesail range area reveals a trapezoidal arrangement formed by the approximate parallelism of the north-northeast-trending Troitsa Creek and Discovery faults, and the east-northeast-trending Bell Whitesail faults. On a larger scale map of the area, this pattern appears to be also reflected in the shape of Whitesail Lake and Reach, Troitsa lake and Tahtsa Reach, and Coles Creek.

The Whitesail Fault is a zone of intense shearing and alteration at least a kilometre wide in the claims area and of regional significance and extent. The Cummins Creek tuffs appear on both sides of the fault in the west and central part of the claims area, but there is an abrupt change from Old Shovel volcanics to Cummins Creek group in the southeast. The Discovery fault is defined, over a much smaller width, by alteration and structural discontinuities, and by an abrupt change in rock type. The Troitsa Creek fault is recognized by changes in rock type, seen particularly clearly in upper Troitsa Creek. It is manifested as altered and sheared zones throughout the Troitsa complex rocks, and has been tentatively

extended north along Bell creek, although there is little rock to see in this creek. The Bell fault is drawn on the basis of rock changes, from the porphyry complex to the volcaniclastics, which usually occur on saddles containing argillically altered material, especially in the northeast. The character of the contact between the Troitsa complex and the Bell group in the central west region, and between the complex and the Cummins Creek tuffs in the area just east of the Troitsa Creek fault, is unknown. There are undoubtedly more faults in the area not yet recognized from the preliminary mapping.

The sense of displacement on the faults bounding the Old Shovel volcanics is such that these lavas have been down-dropped to their present position. This is concluded from the fact that they are the youngest unit, and also that the abundant agate and other amorphous silica represents the upper part of a hot spring system that has been now justaposed against lower parts of the system seen in the Cummins Creek tuffs. Thus if the Old Shovel lavas are consanguine with the Troitsa complex, they still represent a later stage of volcanics that originally overlay the intrusive material. The sense of movement along the Whitesail fault where it occurs within the Cummins Creek tuffs is not readily obvious, although there is undoubtedly an overall change in character of the tuffs across the faults which indicates that although this fault is large and probably long-lived, the vertical displacement is not large. Several observations suggest that the displacement includes a lowering of the eastern part of the Cummins Creek tuffs relative to the western part, south of the fault zones such that the rocks exposed in the west represent deeper levels:

1. Preservation of the Troitsa flows in the east.

2. Preservation of the Green sediments in the east.

3. Alteration consisting of zeolites in the east increasing in intensity to propilization and quartz veining in the west.

Movement along the Troitsa Creek fault is thought to have dropped the Bell volcaniclastics down relative to the Cummins Creek tuffs, simply on the basis of the interpreted relative ages of these units.

Fossil Hydrothermal System:

The observation of a spectacular amount of silica, as both amorphous material and as quartz veins, and the associated pervasive alteration, demonstrates that a large and long-lived hot spring system existed throughout the claims area, and affected all the major lithological units. Furthermore, the discovery of several areas with highly anomalous gold and silver contents(in excess of 10,000 ppm silver and 10,000 ppb gold), and the observation of copper-, lead-and zinc-bearing sulfides, indicates that this hot spring system contained metal-rich, potentially ore-forming fluids. The multiple-banded nature of most of the quartz veins, and the variety of types of quartz and silica, shows that there was repetitive mineral precipitation, a condition essential to the concentration of ore-grade deposits of metals. Some observations and reflections based on the geological mapping can be made:

1. The simplest, and to date the most reasonable, hypothesis is that of a single, long-lived hydrothermal system.

2. The hydrothermal solutions exploited conduits made available by both (a) faults and structural breaks, and

   b) permeable rock types such as the chaotic breccias of the Troitsa complex, or the almost entirely fragmental Cummins Creek group.

3. The precipitated products of the hydrothermal solutions, found as quartz veins, sulfides and precious-metal-bearing phases, occur in three of the major rock units:

    (a) The Cummins Creek tuffs (Cummins showing, Flare showings, part of the Moraine showing)

    (b) The Bell volcaniclastics (The Ultra showing)

    (c) The Troitsa complex (the Moraine showing, Ice showing, Discovery showing)

    Thus none of these units can be written off as target hosts.

4. Although it is premature to identify a depth of zonation of the fossil hot spring system, it is evident that the Old Shovel volcanics, where agate and other amorphous silica-filled cavities, and where both sulfides and metal values are absent, represent the upper portions of the system, faulted down to their present position. In Cummins Creek tuffs, quartz veins with sulfides of various kinds, and anomalous values of precious and base metal represent lower parts of the system. Within this unit the largest veins which contain very high precious metal values are found in the lowers part of the exposed section (Lower Cummins showing). High precious metal values are also found several 100 metres higher, the distance depending on fault displacement, at the Flare and Moraine showings. The potential for the recognition of depth zonation is large but will only be realized with considerable further geological work and concurrent geochemical analysis.

5. Without straining either the validity of information after only two months of mapping and prospecting, or the integrity of models developed for epithermal precious metal deposits (developed on the basis of well-known ores in generally younger rocks in a somewhat different tectonic setting), it is apparent that the type of mineralization found in the Whitesail range is generally similar to known producers elsewhere in the North American Cordillera.

6. The age of mineralization can be estimate as follows:

    (a) It postdates all rock types

    (b) Probably postdates and exploits the Whitesail fault

    but

    (c) Predates the fault movement that down-dropped the Old Shovel lavas

7. The heat source that generated the hydrothermal fluids is likely the same as the thermal inspiration for the Old Shovel and Troitsa magmatism, and possible even the older Cummins Creek volcanism.

8. The scale of the hot spring system manifested in the Whitesail Range is enormous, indicating intensive hydrothermal activity in the lateral and vertical space, and in time. This indicates an excellent potential for discovering one, if not several, parts of the system that were favourable for the concentration of precious metals.

Economic Geology

Exploration of the Troitsa Peak property has revealed the presence of several localities where anomalous or highly anomalous precious metal values are present in the rocks. For ease of description these localities have been designated the "Cummins Creek Vein System", "Moraine Showing", "Ice Showing", "Flare Showing", "Ultra Showing", "Suratt Showing", "Discovery Showing" and "Bell Showing" and their locations are shown on the maps of the analytical results (Maps 20 to 25) However, this does not mean that the full extent of the showings has been defined and it is possible that some of the showings may later be found to be parts of larger anomalous zones (for examples the "Moraine", "Ice, and "Flare" showings may be part of a larger zone). It is also probable that other anomalous localities remain to be discovered on the property. Each of the showings will be described below.

"Cummins Creek Vein System"

Cummins Creek is a major southeasterly draining stream in the south-eastern part of the property. Exploration has shown the presence of a

number of quartz veins, often with highly anomalous precious metal contents, exposed in the creek bed and on the valley sides for a distance of at least three kilometres from approximately the 1,500 m elevation to below the 1,100 m elevation. The veins found to date are up to 3 m thick and have been traced over strike lengths of 100 m or more. The veins are variable in direction, although several of the better developed veins trend north-northwesterly, and are vertical or dip steeply to the east. Significant precious metal values have been obtained from quartz vein material up to a maximum of 1.34 oz/ton Au and 292.90 oz/ton Ag. The best developed and best mineralized veins appear to be in the central part of Cummins Creek between the 1,200 m and 1,300 m elevations where the veins are locally sulphide bearing, vuggy, and appear to be the result of multiple stages of quartz injection. Most work has been done at the higher elevations above tree line where the veins were first found. There was insufficient time to test or trace the better developed veins subsequently found downstream. Exploration of the veins should be a high priority in any further work on the property.

Reconnaissance in 1981 revealed the presence of several quartz veins in a fairly well exposed area of the eastern flank of Cummins Creek at about the 1,450 - 1,500 m elevation. A few grab samples were collected of the quartz veins which returned analyses of up to 1,200 ppb Au and 2.4 ppm Ag (assays of up to 0.028 oz/ton Au and 0.073 oz/ton Ag). Quartz veining was also found on the western flank of the creek at about the same elevation and one grab sample here returned an analysis of 750 ppb Au and 60.5 ppm Ag (assays were 0.026 oz/ton Au and 2.45 oz/ton

Ag). This area of quartz veining was examined in detail in 1982 - the quartz veins were channel sampled where exposed and a soil geochemistry survey was carried out over thearea. The results of the 1982 work are shown in Maps 6 to 9.

The area is underlain by Cummins Creek Tuffs which have been subject to pervasive propylitic alteration. Three sub-parallel quartz veins are found in a 50 m wide zone on the eastern flank of Cummins Creek and there are further indications of quartz veining approximately 100 m further east. The veins trend approximately N50°W and dip vertically or at steep angles to the northeast. The veins can be traced for approximately 120 m from the northwest where they are lost under talus cover to the southeast where they are covered by vegetation. Further quartz veining with similar attitudes is found along strike approximately 100 m to the southeast indicating the veins are over 200 m in length. These particular quartz veins were found to be narrow (maximum thickness 1 m) and irregular (often pinching out). The veins are surrounded by envelopes of intense argillic alteration, which are more continuous along strike than the quartz veins themselves, and which reach total thicknesses of up to 2.5 m. The channel samples of these veins did not return any outstanding values. The quartz veins west of the creek proved to be more substantial. The lower of the two zones shown consists of quartz veining and argillic alteration which was channel sampled across a true width of 16.4 m. This contained two quartz veins 1.7 and 3.0 m wide separated by 1.3 m of argillically altered tuffs. The zone is close to vertically dipping and the widths are therefore representative of the true thicknesses. The zone can be traced for approximately 30 m. The

channel samples yielded no anomalous gold values although silver attained 6.0 ppm over 2 m and there are associated high mercury values (1,050 ppb Hg over 2 m associated with the high silver values). The upper quartz and argillic alteration zone was channel sampled over a length of 22.2 m but this was at an acute angle to the vein and probably represents a true thickness of about 5 m. This zone yielded somewhat higher precious metal values of 280 ppb Au and 20.4 ppm Ag over 2 m (true thickness approximately 0.5 m) or 225 ppb Au and 12,25 ppm Ag over 4 m (true thickness approximately 1 m). A soil sampling program was carried out in the immediate area of these veins but although some areas of anomalous mercury values were defined no further precious metal bearing veins were located. A further discussion of the sampling is given in the following section of the geochemistry.

The most significant development in the Cummins Creek locality came later in the field season when exploration of the lower part of Cummins Creek located several well developed and better mineralized quartz veins at lower elevations below the timber line. The first indication of this was galena, sphalerite and chalcopyrite bearing quartz veins float material found in the creek a sample of which (PS129R) returned an analysis of greater than 10,000 ppb Au and greater than 10,000 ppm Ag. Two gold assays of this sample returned values of 1.340 and 1.228 oz/ton Au and one silver assay returned a value of 292.90 oz/ton Ag. Exploration located the probable source of this float - a substantial quartz vein containing very similar sulphide bearing material exposed at 1,290 m elevation in the creek bed. Several grab samples from the vein yielded high precious metal values - e.g. samples

PS147R, TR141R and TR143R returned values of 1,600 ppb Au and greater than 100 ppm Ag, 1,800 ppb Au and greater than 1,000 ppm Ag, and 7,600 ppb Au and greater than 1,000 ppm Ag respectively (assay values 0.068 oz/ton Au and 6.27 oz/ton Ag, 0.070 oz/ton Au and 48.27 oz/ton Ag, 0.328 oz/ton Au and 63.15 oz/ton Ag respectively). The vein trends N15°W and dips steeply to the east. It is hosted in propylitic altered Cummins Creek tuffs and consists of a central zone 1.6 m in width comprising 60 - 80% vuggy quartz vein material the mutually crosscutting and banded nature of which suggests several phases of injection, and 1 - 2 m zone either side of the central zone containing sparser and narrower quartz veinlets. The vein was channel sampled where exposed in the creek bed and one sample returned values of 50 ppb Au and 35.5 ppm Ag over 0.8 m but no sulphides were present in the quartz vein at this point. The vein is seen to be exposed for some 15 m in the stream bank (the sulphide bearing grab samples were collected from this section) but there was insufficient time to take more channel samples or to trace the vein away from the stream bank.

Another substantial quartz vein was found downstream of the above vein at the 1,260 m elevation in the creek bed where it is continuously exposed for a distance of 97 m and the topography indicates it probably extends at least a further 50 m. The vein strikes N15°W and dips at 67° to the east. It varies in width from 0.5 m to 2.7 m and is very similar in appearance to the previously described vein. One channel sample at this locality returned a value of 235 ppm Au and 46 ppm Ag over 0.5 m.

Several other quartz veins have been located in Cummins Creek

including a zone of narrow quartz veinlets (maximum thickness 10 cm) found at the 1,080 m elevation from which seven grab samples (CS3R, CS7R, CS8R, CS9R, CS10R, CS21R and CR22R) have yielded analyses in excess of 1,000 ppb Au. The two highest values from this zone were CS21R which gave analyses of greater than 10,000 ppb Au and 27.1 ppm Ag (0.572 oz/ton Au and 1.02 oz/ton Ag) and CS22R which gave analyses of greater than 10,000 ppb Au and 47.4 ppm Ag (0.386 oz/ton Au and 0.81 oz/ton Ag).

A sample of sulphide bearing quartz float - TR44R - from a westerly draining south bank tributary of Cummins Creek contained high precious metal values of 1,000 ppb Au and 51.7 ppm Ag (0.024 oz/ton Au and 1.78 oz/ton Ag). A polished thin section of this specimen was examined by Mr. A. Littlejohn of Vancouver Petrographics Ltd. who identified the sulphide present as sphalerite and an unidentified black metallic mineral. A later X-ray diffraction analysis of the black mineral identified it as amorphous molybdenite (jordisite). The microscopic examination also showing the presence of native silver as three very small grains (maximum size .045 mm). This indicates that the precious metal bearing veins extend some distance away from Cummins Creek itself.

"Moraine Showing"

This locality occurs between the headwaters of Troitsa and Cummins Creeks at elevations ranging from 1,700 to 1,850 m. The locality was found during reconnaissance in 1981 when two grab samples of quartz veins returned values of 1,200 ppb Au and 2.3 ppm Ag (assays 0.025 oz/ton

Au and 0.058 oz/ton Ag), and 570 ppb Au and 16.6 ppm Ag (assays 0.028 oz/ton Au and 0.45 oz/ton Ag). This latter value was confirmed by a grab sample collected at the same spot in 1982 - SP 3R(A) - which returned analyses of 550 ppb Au and 0.6 ppm Ag (assays 0.028 oz/ton Au and 0.2 oz/ton Ag). Other grab samples in 1981 from local areas of galena, sphalerite and chalcopyrite dissemination returned values of up to 35.7 ppm Ag (assay 1.48 oz/ton Ag) as well as values greater than 1% Pb, Zn and Cu.

The locality is comprised of an extensive area of intense hydrothermal argillic alteration and silica addition. The full extent of the zone is not known as there is extensive talus and moraine cover in the area, however, it is seen to extend at least 500 m in a northeast-southwest direction and 300 m in a northwest-southeast direction. The alteration zone is developed in an area of chaotic breccia, which obviously acted as a conduit for the hydrothermal solutions, and also affected the adjacent rocks. The breccia is developed at the margin of the Troitsa complex - the feldspar porphyry intrusives and tuffs of the Troitsa complex lie to the north and the tuffs of the Cummins Creek group lie to the south. The breccia fragments are usually 5 - 10 cm in size but may be smaller or larger (up to 1 m or more). The breccia fragments are often cemented by quartz which is locally amethystine. Disseminated pyrite (up to 2%) is ubiquitous. Galena, sphalerite and chalcopyrite occur locally associated with quartz veinlets (especially with the amethystine quartz) and as disseminations over areas of a few metres. In the absence of any immediately obvious diagnostic geologic feature

related to precious metal mineralization (except the association of high silver values with the patches of galena, sphalerite and chalcopyrite) sampling of the alteration zone on a grid was initiated. Samples were collected on 20 m spaced north-south lines. Rock samples were collected where possible at 10 m intervals and where there was no outcrop soil samples were collected at 20 m intervals. The sample locations and results are shown in Maps 10 and 11 , and are discussed in more detail in the following section on geochemistry. Morain and ice cover prevented effective sampling in some localities and because of lack of time the complete alteration zone was not sampled. The sampling to date has not defined a specific mineralized zone but further highly anomalous samples were found. The most significant samples are WS229R from a 2 - 3 cm wide quartz veinlet which returned values of 6,500 ppb Au and 10.0 ppm Ag (assays 0.136 oz/ton Au and 0.37 oz/ton Ag), WS202R a silicified tuff which analysed 1,300 ppb Au and 25.3 ppm Ag (assays 0.056 oz/ton Au and 0.67 oz/ton Ag), and WS203R a quartz veinlet which analysed 480 ppb Au and 20.1 ppm Ag (assays 0.028 oz/ton Au and 0.45 oz/ton Ag). It is seen that these samples lie just within the Cummins Creek tuffs at the contact with the chaotic breccia. It is also seen that most of the other high gold values are from samples within the Cummins Creek tuffs (for example samples WS246R, WS425R, WS250R, WS213R, WS242R and WS243R) and that many samples in the tuff immediately adjacent to the breccia contact are anomalous in gold and silver. These results indicate that the hydrothermal solutions which caused the intense argillic alteration were precious metal bearing and that the chaotic breccia forms an

excellent conduit for the solutions but that the breccia is either too permeable or has unsuitable chemistry to act as a trap for the precious metals (except for the silver which is associated with the local sulphide disseminations). It appears that the precious metals are preferentially deposited in quartz veinlets or zones of silification in country rocks at the contacts of the breccia and it is speculated that this may be due to a decrease in the permeability or a change of the chemical environment.

The quartz vein from which the anomalous sample SP3R(A), mentioned above, was collected was channel sampled. The best value obtained was from SP4R which analysed 1,550 ppb Au and 94.4 ppm Ag (assay 0.112 oz/ton Au and 3.09 oz/ton Ag) over 1 m. This locality is in an area of talus cover and could not be traced for any distance. The vein strikes N50°E and dips 67° to the northwest. Other quartz veining approximately on strike from this was also sampled but no further highly anomalous values were obtained.

The surrounding area was examined and grab samples were collected, usually of quartz vein material, several of which were anomalous. Sample SPR2 located approximately 500 m north-northeast of the Moraine showing returned analyses of 2,080 ppb Au and 108.1 ppm Ag (assays 0.114 oz/ton Au 3.55 oz/ton Ag). Sample PS19R located approximately 600 m south of the showing returned analyses of 900 ppb Au and 1.9 ppm Ag (assays 0.026 oz/ton Au and 0.18 oz/ton Ag). Sample PS3R located approximately 500 m south-east of the showing returned analyses of 1,085 ppb Au and 3.0 ppm Ag (assays 0.028 oz/ton Au and 0.10 oz/ton Ag). Sample PS30R located 60 m east of PS3R returned analyses of 800 ppb Au and 4.6 ppm Ag (assays 0.028 oz/ton

Au and 0.08 oz/ton Ag). The latter two samples were collected from quarts veinlets in propylitic and argillic altered Cummins Creek tuffs adjacent to small fault zones. The faults trend N60°E and are probably related to the major Whitesail Fault. Channel samples were collected in these localities adjacent to the fault and at the PS30R locality showed the presence of a broad anomalous zone at the southern contact of the fault. In this case all five of the 2 m channel samples returned analyses of several hundred ppb Au and averaged 565 ppb Au and 2.4 ppm Ag over 10 m (assays averaged 0.022 oz/ton Au and 0.21 oz/ton Ag over 10 m).

It is concluded from the above data that precious metal bearing hydrothermal fluids have affected an extensive area in and around the Moraine Showing locality and that chaotic breccia and other structures such as faults have acted as conduits. Gold mineralization is found to occur in interesting concentrations (up to 0.136 oz/ton) and anomalous values occur over substantial widths (up to 10 m). The locality merits further work and future investigations should be concentrated on zones adjacent to structures which may have acted as channelways for the fluids rather than on these intensely altered zones themselves.

"Ice Showing"

This locality is found some 600 - 700 m east of the Moraine Showing at the headwater of Cummins Creek at approximately the 1,800 m elevation. The showing consists of disseminated galena, sphalerite and chalcopyrite found in scattered pieces of float. This is in argillic altered chaotic breccia and is very similar to some of the mineralization seen in the central part of the Moraine Showing. The

source of this material seems to be beneath a small permanent ice patch and no mineralization has been found in place. The float samples contain anomalous precious metal values, particularly silver, and one sample, WS9R, returned analyses of 10 ppb Au and 48.0 ppm Ag (assays 0.016 oz/ton Au and 1.35 oz/ton Ag). No detailed sampling was done at this locality.

It is believed that mineralization at the Ice Showing is very similar to that described above at the Moraine Showing and the two showings may form part of a larger anomalous trend subparallel to the Whitesail Fault. Future work at the Ice Showing should, like the Moraine Showing, concentrate on zones adjacent to channelways for the hydrothermal solutions rather than the altered chaotic breccia.

"Flare Showing"

This locality is found at about the 1,500 m elevation on the flanks of Blitz Creek (an east bank tributary of Troitsa Creek). The showing comprises quartz veining and associated argillic alteration exposed at several localities along a major fracture zone. Geological mapping indicates the fracture zone is 1 km or more in length. It trends approximately N60°E subparallel to the major Whitesail Fault zone to which it may be related. The fracture zone and veining are hosted in lapilli tuffs of the Cummins Creek group which are commonly subject to propylitic alteration. The quartz veining is best seen at a point close to the south bank of the creek at the 1,500 m elevation. Here pyrite is commonly associated with the quartz and argillic alteration and arsenopyrite occurs as irregular grey veinlets in the quartz. A series of

grab samples were collected of arsenopyrite bearing material at this locality (samples TR132R - TR136R) all of which returned analyses greater than 100 ppb Au, the highest being TR132R which returned analyses of 1,500 ppb Au and greater than 100 ppm Ag (assays 0.044 oz/ton Au and 3.63 oz/ton Ag). The zone of quartz veining here is approximately 4 m wide and dips at about 60° to the south. A series of channel samples were collected across the zone at this point (samples WS310R - WS316R) and the channels across the central 4 m wide zone (samples WS311R - WS214R, each 1 m in length) averaged 245 ppb Au and 11.5 ppm Ag over 4 m (where assayed they averaged 0.012 oz/ton Au and 0.43 oz/ton Ag over 3 m). Arsenopyrite bearing quartz veining is exposed a further 100 m to the west-southwest although the distribution is more irregular at this locality. One grab sample at this locality, PS117R, returned analyses of 310 ppb Au and 0.8 ppm Ag (assays 0.008 oz/ton Au and 0.04 oz/ton Ag). A grab sample from a third exposure of arsenopyrite bearing quartz (TB185R) located approximately 200 m east-northeast of the first described occurrence returned analyses of greater than 10,000 ppb Au and 26.0 ppm Ag (assays 0.494 oz/ton Au and 0.58 oz/ton Ag). Quartz veining with anomalous precious metal values has therefore been shown to occur over a length of 300 m along the fracture system. The fracture zone itself trends in the direction of the Moraine and Ice Showings and all three of these showings may be part of a large interconnected anomalous zone. This anomalous system could be up to 3 km in length.

Other anomalous samples have been found in the vicinity of the Flare Showing. Approximately 500 m southeast of the central part of the Flare Showing two samples, PS71R and PS72R, of galena bearing quartz float

returned analyses of 1,400 ppb Au and 658.8 ppm Ag (assays 0.058 oz/ton Au and 21.92 ppm Ag), and 330 ppb Au and 21.3 ppm Ag (assays 0.014 oz/ton Au and 0.39 oz/ton Ag) respectively. The source of this float material remains to be found.

Work to date has shown that highly anomalous quartz vein material of potentially mineable width (4 m) occurs over a substantial distance (approximately 300 m) of a major fracture zone. Detailed exploration of the entire fracture system - over 1 km in length - should be a high priority in future work on the property, as should tracing the source of the anomalous float material found in this area.

"Ultra Showing"

This group of anomalous veins is found between the 1,600 m and 1,700 m elevations on the western flank of a north bank tributary of Upper Troitsa Creek. The area is underlain by siltstones and volcanic sandstones of the Bell Group which here trend uniformly about S10°E and dip at moderate angles (about 35°) to the west. These strata are cut by occasional narrow (up to 60 cm in thickness) quartz and barite veins. The veins have a consistent northeasterly strike and vertical dip. The most outstanding analysis to date was obtained from a grab sample - PS109R - of a small (approximately 10 cm thick) barite and calcite vein which contained greater than 10,000 ppb Au and 8.7 ppm Ag (assays 1.366 oz/ton Au and 0.33 oz/ton Ag). Another nearby sample - PS112R - contained 700 ppb Au. Impressive silver analyses have also been obtained from veins in this locality. Two samples - PS102R and PS103R, 10 m apart on a narrow (10 cm thick) chalcopyrite and quartz vein,

returned analyses of 15 ppb Au and 2,497.7 ppm Ag (assays less than 0.005 oz/ton Au and 65.14 oz/ton Ag), and 130 ppb Au and 2,548.0 ppm Ag (assays 0.021 oz/ton Au and 78.64 oz/ton Ag) respectively. Samples from several other veins also have high silver values - PS104R gave 54.6 ppm (assay 0.98 oz/ton), PS105R gave 68.6 ppm (assay 1.97 oz/ton), and PS110R gave 39.4 ppm Ag.

No work has been done on this showing other than collecting the above rock samples. The veins located to date are not of a potentially economic size but their precious metal contents make the locality extremely attractive for further exploration. Further work on this showing should be a high priority in future investigations. The vein system should be traced along strike where areas of greater vegetation cover (particularly to the southwest) could obscure other, perhaps more substantial, veins.

"Suratt Showing"

This showing is located between the 1,600 m and 1,750 m elevations in the Chalco Creek valley - an east bank tributary of upper Cummins Creek. This is in the vicinity of the intersection of two of the major faults on the property - the east-northeast trending Whitesail Fault and the approximately northerly trending Discovery Fault. The area is underlain mainly by the Cummins Creek tuffs of probable Lower Jurassic age except for the northeast quadrant where a segment of feldspar-porphyritic intermediate volcanic flows of probable Upper Cretaceous or Eocene age is preserved as a down-dropped block between the two faults. Hydrothermal alteration is well developed adjacent to the faults and is especially

intense at the junction of the faults. Argillic alteration is centred around the fault junction and along the faults. This passes outwards into propylitic alteration. Celadonite is developed in the feldspar-porphyry volcanics. Quartz veins occur in the Cummins Creek tuffs and are generally subparallel to the directions of the two faults. Grab samples from these veins have yielded anomalous precious metal values - especially from the sulphide bearing (mainly chalcopyrite with minor galena and sphalerite) margins of the veins. Sample PS22R returned values of 160 ppb Au and 298.1 ppm Ag (assays 0.006 oz/ton Au and 11.24 oz/ton Ag), sample PS23R returned values of 290 ppb Au and 238.7 ppm Ag (assays 0.006 oz/ton Au and 8.49 oz/ton Ag), and sample PS24R returned values of 10 ppb Au and 31.1 ppm Ag (assays less than 0.005 oz/ton Au and 0.64 oz/ton Ag). Samples 22 and 23 are from a 50 cm thick quartz vein trending 060° and dipping vertically. Sample 24 is from a 1.1 m quartz vein trending 162° and dipping at 62° to the east. Channel samples were also collected from these veins - sample WS90R was collected from the former of these veins and WS91R from the latter vein but the results were not outstanding (maximum values were 40 ppb Au and 5.1 ppm Ag over lengths up to 1.1 m).

It was postulated that the quartz veining and associated mineralization described above may be indicative of similar but better developed mineralization more closely associated with the faults. Consequently a soil sampling geochemistry program was carried out across the fault zones in the area of their junction and most intense alteration to test this hypothesis. One hundred and three soil samples were collected at 20 m intervals on 50 m spaced lines. The sample locations and analytical

data are shown in Maps 12 to 15 and are discussed in more detail in the following section on geochemistry. No outstanding anomalous zones were found. The highest gold value obtained was 80 ppb and all other results were 25 ppb or less. The highest silver value was 0.6 ppm Ag. Scattered high arsenic (up to 299 ppm As) and mercury (up to 1,400 ppb Hg) values occur but do not seem to define any distinct anomalous zone.

The above results do not indicate any outstanding economic potential for this immediate locality. The data does, however, indicate some precious and base metal mineralization associated with quartz veining which in turn may be related to the faulting. Only a small portion of the fault system has been tested to date. It is recommended that the fault system be tested more extensively for associated mineralization although this is of lower priority than work on the Cummins, Moraine, Flare and Ultra showings described previously.

"Discovery Showing"

This locality is so named because this is where quartz vein material containing anomalous precious metal values was first found in the Troitsa Peak area. It is located at the headwaters of Old Shovel Creek at about the 1,700 m elevation. Attention was drawn to the locality in 1981 when grab samples of quartz vein float material returned analytical values of up to 740 ppb Au and 31.7 ppm Ag (sample TR81R9). Investigations of the locality in 1982 showed the presence of large boulders (up to 2 m in size) of coarsely feldspar-porphyritic

intermediate intrusive of the Troitsa complex which contain vuggy, chalcedonic, epithermal-type quartz veins up to 50 cm thick. The intrusive rock is subject to propylitic and often argillic alteration, and may contain up to 2% disseminated pyrite. The area is underlain by the feldspar porphyry intrusive but this is bounded by the north-south trending Discovery Fault 500 m or less to the east. Here the intrusive is in contact with feldspar-porphyry flows of similar composition (thought to be the extrusive equivalents of the Troitsa stock). Silica addition to the extrusive rocks is common as vesicle and amygdule infillings of agate - especially close to the fault. The source of the anomalous quartz vein material has not been found in place but the generally restricted occurrence of these large boulders in talus at the toe of a small (approximately 500 m by 300 m) pocket glacier indicates the source is immediately below the glacier. Work in 1982 has indicated that quartz vein float containing anomalous precious metal values can be found in a zone extending north from the original locality and similar (but much narrower) quartz veining is found in place in the intrusive at the extreme north-east corner of the claim block almost 3 km to the north. The highest value obtained in 1982 was from sample TR125R1F, a sample of quartz vein float, which returned analyses of 2,900 ppb Au and 5.4 ppm Ag (assays 0.014 oz/ton Au and 0.13 oz/ton Ag).

The trend of the zone of anomalous float boulders indicates these may be derived from quartz veins in the intrusive sub-parallel to and related to the Discovery Fault. There is very poor exposure in this area because of soil, talus and moraine cover (except in the extreme north-east

of the claim group as noted above) and no quartz veining is seen in place. A total of seventy soil samples were collected at 25 m intervals on 300 m spaced east-west lines just north of the Discovery Showing in an attempt to trace continuations of the veins producing the float material at the Discovery Showing. The soil geochemistry (see Maps 16 to 19 for sample locations and analytical data) did not yield any outstanding anomalies which could represent such veins - the highest gold value was 30 ppb Au, the highest silver value was 0.4 ppm , and neither the mobile elements such as arsenic and mercury nor the base metals yielded any particularly high values. The soil sampling results are discussed in more detail in the following section on geochemistry.

It appears from the above data that quartz veining with anomalous precious metal contents occurs over an extensive area and may be associated with the Discovery Fault zone. The small size of the veins (50 cm maximum thickness), their occurrence primarily as float (the veins found in place are only a few centimetres thick), and the comparatively low values obtained to date make this a low priority target for further exploration. The lack of outcrop in the area of interest makes further exploration in the area difficult. No further work is recommended for this showing at the present time but this should be further evaluated if exploration for precious metal bearing quartz veins in the Cummins Creek and other areas is encouraging.

"Bell Showing"

This locality occurs between the 1,500 m and 1,550 m elevations in

Bell Creek in the northwestern part of the claim block. This differs from the other showings in that it is primarily a base metal rather than a precious metal occurrence and does not have associated hydrothermal alteration or quartz veining. The mineralization consists of galena with minor sphalerite and chalcopyrite on fractures and as scattered disseminations in a 200 m to 300 m wide zone in Bell Group sediments. Here the sediments are green greywackes and siliceous tuffaceous sandstones. The strata strike east-northeasterly with shallow southeasterly dips. The mineralization appears to be partially controlled by northwesterly trending fractures. Some grab samples have been collected of the sulphide mineralization. No significant gold values have been obtained although there are some anomalous silver values - sample TB172R yielded 39.3 ppm Ag (assay 0.81 oz/ton Ag).

This showing appears to have little economic significance for precious metal mineralization, other than the low silver values associated with the base metals. The showing seems different in character from the others described above and may not be directly related to epithermal processes associated with the Troitsa complex and could be related to Jurassic volcanism in the area. No further detailed work is recommended for this showing although its relationship to the other showings and to Jurassic sedimentation should be further investigated in the course of future mapping of the property.

GEOCHEMISTRY

Sampling Procedure

A rock geochemistry program was carried out over the entire property. Hand size samples (less than 1 lb. weight) were collected. Mapping of the property located many quartz veins, barite veins, alteration zones and sulphide bearing zones - the rock geochemistry program concentrated on collecting grab samples of these veins and zones which prospecting in 1981 had indicated potentially contained anomalous precious metal values. Channel samples were collected across the better developed veins and many of the anomalous zones found during the field season. The channel samples were 10 cm wide by 5 cm deep and usually 1 m in length - the sample weight was usually about 10 kg. Eight hundred and twenty eight rock and channel samples were collected - of these 352 were analysed by atomic absorportion methods for gold and silver, 72 were analysed by atomic absorption for gold and silver and by ICP for 30 elements, and 179 by atomic absorption for gold and mercury and by ICP for 30 elements. A further 225 rock samples were collected as part of a grid sampling program carried out in the "Moraine" locality and were analysed by atomic absorption for gold and silver. The rock geochemistry data including the sample numbers, rock and type and analytical results are tabulated in appendix 2. The sample locations and analytical results are shown in Maps 20 to 25 for the property geochemistry and Maps 10 to 11 for the "Moraine" locality.

Detailed soil sampling grids were carried out over the Cummins, Moraine, Suratt and Discovery localities. In the case of the Cummins,

Suratt and Discovery localities the samples were of B horizon soils and were collected from depths of 15 to 20 cm. Soil development in the Moraine locality is poor and samples were of C horizon material and were collected from depths of 10 to 15 cm. At the Cummins locality the samples were collected at 25 m intervals on 100 m spaced lines, at the Moraine locality samples were collected at 20 m intervals on 20 m spaced lines, at the Suratt locality samples were collected at 20 m intervals on 50 m spaced lines, and at the Discovery locality samples were collected at 25 m intervals on 300 m spaced lines. A total of 545 soil samples were collected - the 383 from the Cummins, Suratt and Discovery localities were analysed by atomic absorption methods for gold and mercury and by ICP for 30 elements, and the 162 from the Moraine locality were analysed by atomic absorption for gold and silver. The soil geochemistry data is tabulated in Appendix 3. The sample locations and analytical results for the Cummins locality are shown in Maps 6 to 9 for Moraine locality in Maps 10 to 11, for the Suratt locality in Maps 12 to 15, and for the Discovery locality in Maps 16 to 19.

A total of 38 silt samples were collected from the streams draining the property. These were all analysed by atomic absorption methods for gold and mercury and by ICP for 30 elements. The silt geochemistry data is tabulated in Appendix 4. The sample locations and analytical results are shown in Maps 20 to 25.

Analytical Procedure

The atomic absorption analyses were carried out by Vangeochem Lab Ltd. of 1520 Pemberton Avenue, North Vancouver, B.C. The ICP analyses

were carried out by Vangeochem in conjunction with Acme Analytical Laboratories Ltd. of 852 East Hastings, Vancouver, B.C.

The soil and silt samples were dried and sifted to 80 mesh and the minus 80 mesh and the minus 80 mesh fraction was used in the analyses.

The rock samples were crushed using a jaw crusher and pulverized to 100 mesh or finer using a disc mill. This 100 mesh or finer material was used in the analyses.

For the gold analyses 5.00 to 10.00 grams of sample were used. Digestion was by 20 ml of hot aqua regia. The digested sample was filtered and the pulp washed and discarded. The filtrate was reduced to 5 ml and the gold extracted into diisobutyl ketone and thiourea medium. Detection was by a Techtron model AA5 Atomic Absorption Spectrophotometer with a gold hollow cathode lamp. The results were read out on a strip chart recorder. A hydrogen lamp was used to correct any background interference. The gold values in parts per billion were calculated by comparison with a set of gold standards.

For the silver analyses 0.50 gram of sample was used. Digestion was by hot nitric and perchloric acids (15% to 85% by volume respectively). The digested sample was diluted with demineralized water and aluminum nitrate solution to a fixed volume. Analysis was by atomic absorption methods.

For the mercury analyses 0.50 gram of sample was used. Digestion was by hot aqua regia. The sample was diluted with demineralized water to a fixed volume. An aliquot of the sample was mixed sulphuric acid, sodium chloride and hydroxylamine sulphate-stannous sulphate as the

reductant. The mercury content of the vapour was determined by atomic absorption spectrophotometer.

The inductively coupled plasma analyses gave determinations for thirty elements - Mo, Cu, Pb, Zn, Ag, Ni, Co, Mn, Fe, As, U, Au, Th, Sr, Cd, Sb, Bi, V, Ca, P, La, Cr, Mg, Ba, Ti, B, Al Na, K and W. A 0.50 gram sample was used for the ICP analyses. The sample is digested with 3 ml of 3:1:3 HCl to HNO_3 to H_2O at 90° for one hour. The sample is diluted to 10 ml with water. The leach is partial for Ca, P, Mg, Al, Ti, La, Na, K, W, Ba, Sb, Sr, Cr and B. Only the As, Sb, Bi, Cu, Pb, Zn, Fe and Mn have been considered in this study as being possibly related to precious metal mineralization.

Analytical Results

Property Rock Geochemistry:

A statistical analysis of the rock geochemistry data was carried out (Sb and B were omitted as most of the analyses were below the respective detention limits). The results of the statistical analysis are presented in Table 1. The analytical results all show a positive skewness and the logarithmic statistics give a more realistic interpretation of the data. There is a difference in analytical result for silver between the AA and ICP methods but this is primarily a results of sample selection and does not represent any major analytical discrepancy.

The logarithmic mean value for the gold analyses is 15 ppb. The mean plus two standard deviation level gives an extremely high value of 513 ppb for the anomalous level - this is because sampling concentrated on the potentially anomalous quartz veins. The mean plus one standard

TABLE 1 ROCK GEOCHEMISTRY STATISTICAL ANALYSIS

ELEMENT	ARITHMETIC			LOGARITHMIC		
	MEAN	STANDARD DEVIATION	MEAN + TWO STANDARD DEVIATIONS	MEAN	LOG STANDARD DEVIATION	MEAN + TWO STANDARD DEVIATIONS
Au ppb	163	908	1979	15	0.77	513
Ag (by A.A,) ppb	33	421	875	1.2	0.76	40
Ag (by I.C.P)	1.6	3.55	8.7	0.5	0.59	7.5
Hg ppb	159	374	907	48.7	0.62	838
Ca ppm	26	53	133	14	0.44	105
Pb ppm	15	14	43	12	0.28	41
Zn ppm	183	1606	3394	35	0.48	319
Mu ppm	379	392	1164	198	0.57	2681
Fe %	2.8	1.6	6.0	2.3	0.29	8.8
As ppm	263	1317	2867	69	0.54	819

deviation value of 87 ppb is probably a more reasonable definition of anomalous values and analytical results in excess of this should be followed up. The logarithmic mean value for silver is 1.2 ppm and the mean plus two standard deviation level again gives an extremely high value of 40 ppm because of the concentration of sampling of the quartz veins. As with gold the mean plus one standard deviation value of 7 ppm is probably a more reasonable definition of the anomalous silver level.

Correlation matrices were computed for the various elements. Gold shows a strong positive correlation with silver - a correlation coefficient of 0.50, and also with antimony - a correlation coefficient of 0.53. Gold also shows moderate correlation with lead and arsenic - correlation coefficients of 0.34 and 0.20 respectively. Silver shows strong correlation with lead and antimony - correlation coefficients of 0.57 and 0.51 respectively. Silver also displays a weak to moderate correlation with bismuth and arsenic - correlation coefficients of 0.26 and 0.22. Mercury shows no correlation with gold (correlation coefficient of 0.05) and shows only low or poor correlation with other elements. The best correlation of mercury is with antimony, arsenic, bismuth and lead - correlation coefficients of 0.36, 0.31, 0.22 and 0.19 respectively. Good correlations (coefficients greater than 0.40) between the other elements are as follows - Cu:Zn 0.47, Cu:Mu 0.50, Cu:Fe 0.52, Zn:Mn 0.74, Zn:Fe 0.58, Zn:Bi 0.43 and Mn:Fe 0.54. The data indicates that mercury is of doubtful use in defining precious metal targets. High mercury values sometimes occur in altered rocks adjacent to quartz veins but it seems that mercury is so mobile it is not directly related to the gold and

this analysis can be omitted in further rock geochemistry on the property. It is recommended that in future rock geochemistry samples be analysed by atomic absorption for gold, silver, lead, antimony and arsenic as these seem to be the best indicators of the presence of precious metals.

"Cummins Creek" Locality:

A statistical analysis of the Cummins Creek soil geochemistry data was carried out. This is summarized in Table 2 (the logarithmic statistics are considered to be more significant). The data indicates gold values in excess of 26 ppb and silver values of 0.3 ppm or more are anomalous. The highest gold value is 80 ppb from a sample collected at the site of a known anomalous quartz vein. All other gold values are 35 ppb or less and all are found on the base line and do not define any distinct anomalous zone. The highest value is silver 1.7 ppm located at the extreme western end of the southernmost sample line. Further work should be done at this locality to determine if this sample indicates the presence of a precious metal bearing quartz vein. A value of 1.6 ppm was obtained from a sample close to a known anomalous quartz vein. No other high values exceeded 0.6 ppm - most of these are associated with known veins and others do not define a distinct anomalous zone. Correlation matrices were calculated for the data. Gold has a correlation coefficient of 0.22 with silver and 0.16 with arsenic but shows no correlation with other elements - as would be expected from the generally low gold values obtained. Silver has a correlation coefficient of 0.42 with arsenic but shows low correlation with other elements. Other correlation coefficients in excess of 4.0 are Pb:Zn

TABLE 2 SOIL GEOCHEMISTRY STATISTICAL ANALYSIS

LOCALITY	ELEMENT	ARITHMETIC			LOGARITHMIC		
		MEAN	STANDARD DEVIATION	MEAN + TWO STANDARD DEVIATIONS	MEAN	LOG STANDARD DEVIATION	MEAN + TWO STANDARD DEVIATIONS
Cummins Creek	Au ppb	7	9	25	4	0.40	26
	Hg ppm	50	136	321	36	0.26	118
	Ag ppm	0.13	0.16	0.45	0.1	0.16	0.23
	Cu ppm	42	25	92	37	0.21	97
	Pb ppm	12	7	26	11	0.19	26
	Zn ppm	72	57	187	67	0.12	119
	Mn ppm	1174	652	2479	1019	0.24	3056
	Fe %	3.2	0.7	4.6	32	0.09	4.8
	As ppm	23	48	118	11	0.43	80
Moraine	Au ppb	15	16	47	9	0.49	83
	Ag ppm	1.0	1.3	3.6	0.5	0.55	5.8
Suratt	Aa ppb	3	8	19	2	0.24	7
	Hg ppb	67	174	415	28	0.47	243
	Ag ppm	-	-	-	-	-	-
	Ca ppm	32	26	84	22	0.43	158
	Pb ppm	13	6	25	12	0.19	28
	Zn ppm	79	40	159	70	0.22	191
	Mn ppm	1226	679	2584	1046	0.26	3454
	Fe %	3.0	1.4	5.8	2.6	0.26	8.8
	As ppm	17	37	90	7	0.51	72
Discovery	Aa ppb	7	7	21	4	0.43	32
	Hg ppb	34	17	68	31	0.20	79
	Ag ppm	0.2	0.1	0.3	0.1	0.20	0.4
	Ca ppm	13	4	21	12	0.16	24
	Pb ppm	12	2	16	11	0.08	17
	Zn ppm	59	19	97	55	0.18	127
	Mn ppm	542	253	1048	461	0.29	1770
	Fe %	2.8	0.8	4.4	2.7	0.15	5.4
	As ppm	11	5	21	10	0.22	28

0.48, Cu:Fe 0.42, Pb:Fe 0.44, Pb:As 0.49, and Fe:As 0.50. Most of the anomalous arsenic values (greater than 80 ppm) are associated with known areas of veining including the highest value of 417 ppm. Some point anomalies are found - 173 ppm at 200S+150W, 163 ppm at 0+125E and 337 ppm at 0+50S - which should be further investigated.

The above data indicates that arsenic together with lead, iron, copper and zinc can indicate the presence of precious metal bearing vein systems. It is recommended that a soil sampling program analyzing for these elements be carried out in the lower part of Cummins Creek to trace the better developed and better mineralized veins found here.

"Moraine" Locality:

Sampling of the Moraine area was comprised of approximately equal proportions of rock samples and soil samples ('C' horizon) depending on the material present. The analytical data for the rock samples has been included with the statistical analysis for all rock samples from the property and is presented in Table 1. A statistical analysis of the soil sample data is presented in Table 2. Several extremely high gold and silver analyses have been obtained from quartz veins and veinlets in this locality which were discussed in the preceding section on economic geology. These high values are found mainly in the southwestern part of the area covered by the sampling grid. The lack of sample coverage in some parts due to ice or moraine cover makes contouring of the data difficult but it can be seen that there is a marked change in precious metal content associated with the north-northwesterly trending contact between the chaotic breccia

of the Troitsa complex and the Cummins Creek tuffs in this southwestern area. The silver content of the tuffs immediately adjacent to the contact consistently exceed the logarithmic mean of 1.2 ppm. A contour of this mean value would almost coincide with the contact. The highest silver values tend to be closest to the contact and decrease steadily westwards away from the contact. The gold values show a similar pattern but are somewhat more irregular. This indicates that although the chaotic breccia was presumably the channelway for the precious metal bearing hydrothermal solutions the precious metals were preferentially deposited in the host tuffs close to the contact with the breccia. Further systematic rock sampling should be carried out here - concentrating on the tuffs adjacent to the breccia and other potential conduits such as faults - to confirm this picture and to test for economic concentrations of precious metals.

"Suratt" Locality:

A statistical analysis of the Suratt grid soil geochemistry data was carried out and is summarized in Table 2. The gold and silver analyses did not yield any outstanding values. The calculated anomalous levels for these are close to the detection limits and are of little practical value. Consequently no correlation is shown with the other elements. The highest gold value was 80 ppb - all others were 25 ppb or less and 98% were at or below the detection limit. The silver values were similarly low. Correlation matrices were calculated for the data. Arsenic shows a strong correlation with Cu, Pb, Zn, Mn and Fe. Other strong correlations are between Cu and Mn, Zn and Mn, Cu and Fe, Zn and Fe,

and Mn and Fe. Four arsenic values exceed the defined anomalous level of the logarithmic mean plus two standard deviations - 72 ppm - the highest being 299 ppm. These occur in scattered localities. If the arsenic data were contoured at the mean plus one standard deviation level - 22 ppm - a northeast-southwest linear zone approximately coincident with the northwestern extremities of the sample lines is outlined. This could be of significance if it can be assumed that arsenic is related to precious metal mineralization. However, there is no clear indication of precious mineralization associated with the junction of the two major faults at this locality. The sampling grid should be extended to define and test the zone of high arsenic but this is a low priority target and should await the clear demonstration of the association of arsenic with economic precious metal bearing vein systems on the property.

"Discovery" Locality:

A statistical analysis of the Discovery grid soil geochemistry data was carried out and is summarized in Table 2. Again no outstanding gold or silver values were obtained (the maximum values were 30 ppb and 0.4 ppm respectively) and consequently the statistical data are of little real significance for the precious metals. They show little correlation with the other elements except for a 0.23 correlation coefficient between silver and lead. Strong correlations are found between Zn and Cu, Cu and Mn, Zn and Mn, Cu and Fe, Zn and Fe, Mn and Fe, Cu and As and Fe and As and Mn and As. Mercury shows strong negative correlations with Cu, Zn, Mn and Fe. The data does not clearly indicate an anomalous zone which could be

related to precious metal mineralization. No further work is recommended in this locality.

Stream Sediment Samples:

Only 38 silt samples were collected on the property and a statistical analysis of this small sample population was not warranted. The highest gold value was 30 ppb from sample TB12D collected from a north bank tributary of Cummins Creek some 600 m east of the locality where the best developed anomalous quartz veins are found. Further mapping and prospecting should be carried out in this area. The highest silver values were 1.9 ppm from two samples TR45D and TR72D. The former sample is from the lower part of Cummins Creek where anomalous float boulders have been found. The latter sample is from close to the northern fault contact of the Troitsa stock and may represent minor mineralization associated with the fault zone. There are several high arsenic values mostly from streams draining the area of the "Flare" showing where arsenopyrite has been found. There are several scattered high copper and high lead values from either the northern part of the stock where the source of the metals is not apparent or from the Cummins Creek area where the source could be from the base metal bearing veins or the base metal disseminations in the "Ice" showing area. No further silt sampling of the property is recommended at the present stage of development as this is not sufficiently sensitive to discriminate any new anomalous localities from the many anomalous localities already known on the property.

SUMMARY AND CONCLUSIONS

The Troitsa Peak property consists of nine claims totalling 156 units staked in late 1981 and early 1982. The property is located approximately 130 km south of Smithers in Central British Columbia. A program of geological mapping and geochemical reconnaissance was undertaken on the property during the 1982 field season.

Geologically the property is underlain by sedimentary and volcanic marine and non-marine strata of the Jurassic age Hazelton Group. The strata are intruded by high-level sub-volcanic intrusive (and also extrusive) complex of intermediate composition which is believed to be of Upper Cretaceous or Eocene age. This geological environment is suitable for the formation of epithermal-type precious metal deposits.

Exploration has shown the presence of highly anomalous precious metal values. Grab samples have been collected which have returned assay values of up to 1.366 oz/ton Au and up to 79 oz/ton Ag indicating the potential for a deposit of ore grade on the property. Mapping shows the precious metal values to be associated with quartz veins of sufficient size (widths up to 4 m and exposed lengths of over 100 m) to show their potential as hosts for metal deposits of economically mineable dimensions. Mapping also shows the anomalous precious metal values to be associated with qaurtz veinlet stockworks and hydrothermal alteration zones, often with associated lead, zinc and copper mineralization. The stockworks and alteration zones are of sufficient dimensions (diameters of several hundred metres) to indicate a potential for bulk tonnage precious metal deposits.

It is concluded that the property has excellent potential for the discovery of gold and/or silver (possibly also with associated base metal values) vein-type or bulk-tonnage deposit of economically mineable proportions. It is strongly recommended that a program of detailed mapping, trenching and sampling of the known showings, together with further mapping and geochemical surveying of the property as a whole, be undertaken during the 1983 field season.

STATEMENT OF QUALIFICATION OF AUTHOR

NIGEL G CAWTHORN: Graduated from Aberdeen University, Aberdeen, Scotland with B.Sc. Degree (Honours) in Geology in June 1970. Graduated from the University of British Columbia, Vancouver, B.C. with M.Sc. Degree in Geology in September 1973.

Experience:

1973 - 1975: Resident Geologist, Canada Tungsten Mining Corp., Tungsten, N.W.T. Duties included exploration within the mine area, drill supervision, geological mapping, grade control and other duties of mine geologist in operating tungsten mine.

1975 - 1978: Project Geologist, Union Carbide Exploration Corp., Brazil. Duties included geological mapping and supervising geochemical, geophysical and drilling programs related primarily to tungsten exploration in north-eastern Brazil.

1978 - 1981: Project Geologist, Union Carbide Exploration Corp., United Kingdom. Duties included geological mapping and carrying out geochemical and geophysical reconnaissance programs related primarily to tungsten exploration in south-west England and other areas of the United Kingdom.

1981 - Present: Project Geologist, Union Carbide Exploration Corp., Canada. Duties include carrying out geological and geochemical programs in British Columbia and other areas.

APPENDIX 1

ITEMIZED COST STATEMENT

ITEMIZED COST STATEMENT

TROITSA PEAK (NORTH) AND TROITSA PEAK (SOUTH) CLAIM GROUPS - 1982

Salaries:

1 Project Geologist - 59 days @ $152.17/day + fringe benefits (June 23rd-July 10th, July 12th-17th, July 20th-23rd July 29th-August 7th, August 9th-16th, August 18th-20th, August 22nd-27th, August 29th-September 1st)	$10,647.94
1 Senior Geologist - 74 days @ 115.39/day including overtime and holiday pay. (June 28th-July 23rd, July 26th-August 7th, August 9th-September 1st, September 7th-10th, September 13th-18th)	8,400.38
1 Junior Geologist - 59 days @ $76.20/day including overtime and holiday pay. (June 24th-July 1st, July 5th-10th, July 12th-16th, July 22nd-August 27th, August 29th, August 31st-Sept. 1st)	4,395.96
1 Field Assistant/First Aid Attendant - 50 days @ $73.85/day including overtime & holiday pay (June 28th-July 3rd, July 5th-16th, July 22nd-August 4th, August 14th-22nd, August 24th-September 1st.)	3,571.37
1 Field Assistant - 56 days @ $50.77/day plus overtime & holiday pay. (June 26th-July 1st, July 5th-16th, July 20th-29th, August 3rd-16th, August 18th-19th, August 21st-22nd, August 26th-27th, August 29th-September 1st)	2,798.44
1 Consultant Geologist - 30 days @ $150/day plus fringe benefits (July 1st, July 4th, July 7th-9th, July 11th, July 20th, July 30th, August 3rd-5th, August 12th-18th, August 22nd, August 24th-30th, September 1st-4th.	5,121.70
1 Field Assistant - 30 days @ $125/day plus fringe benefits (July 1st, July 3rd-5th, July 9th, July 11th-15th, July 30th, August 4th-18th, August 22nd-25th)	4,268.08
1 Field Assistant - 45 days @ $125/day plus fringe benefits (July 1st-7th, July 9th-17th, July 23rd, August 5th-16th, August 18th-20th, August 22nd-27th, August 30th-Sept. 4th)	6,402.13
1 Field Assistant - 15 days @ $125/day plus fringe benefits (July 1st, July 5th, July 11th-15th, August 4th-5th, August 12th-17th)	2,134.04
1 Field Assistant - 22 days @ $100/day plus fringe benefits (July 1st-3rd, July 7th-8th, July 13th-15th, August 4th-5th, August 12th-18th, August 22nd-26th)	2,503.94
2 Cooks - 62 days each @ $100/day plus fringe benefits (July 1st-August 31st)	14,057.86
Salaries Subtotal	$64,301.84

Food and Accommodation:

Personnel and dates as listed above - 564 man/days

Helicopter Pilot and Helicopter Mechanic - 124 man/days
(July 1st-August 31st)

Subtotal	- 688 man/days @ $30/day	$ 20,640.00

Transportation:

Helicopter -	Two month/220 hour contract for Huges 500C helicopter		
	Basing Fee $25,000 per month for 2 months	- $50,000.00	
	220 hours at $152.00 per hour	- 33,440.00	
	Ferry charges, oil etc.	- 3,681.56	
	Fuel	- 9,980.21	
	Sub total	- 97,101.77	
	70% of helicopter costs applicable to property work		67,971.24
Truck Rental -	Ford Bronco 4x4 with winch from June 23rd to September 10th. Rental costs $850 per month ($28.33 per day) plus 15¢ per Km. plus gasoline, tax, repairs		4,646.39
-	Pick-up from July 1st - August 5th, August 17-30th		
	50 days @ $30/day	- 1,500.00	
	Fuel	- 229.20	1,729.20
Air Travel -	Vancouver - Smithers		
	C. Copping-Vancouver-Smithers June 18th Smithers-Vancouver, Sept. 1st.	- 261.35	
	H. Jamieson- Vancouver-Smithers June 23rd. Smithers-Vancouver, Sept. 1st	- 261.35	
	N. Cawthorn- Vancouver-Smithers June 23rd.		
	Smithers-Vancouver July 23rd	- 261.35	
	Vancouver-Prince George July 29th	- 135.70	
	C. Poloni - Smithers-Vancouver Sept. 1st	- 135.70	
	B. Aelicks- Smithers-Vancouver Sept. 1st	- 135.70	1,191.15

Equipment Rental:

Radio Phone - July and August	99.80
8 hand held portable VHF radios - $85.00 per month each (3 month minimum)	2,040.00

Surveys:

Topographic base map at a scale of 1:10,000 covering 63 square kilometers	2,733.00

Geochemical surveys -
577 rock samples analysed for gold and silver @ $8.65 per sample plus 50c per lb. for crushing oversize samples.
173 rock samples analysed for gold and mercury and multi-element analyses by induction coupled plasma @ $15.80 per sample and 50c per lb. for crushing oversize samples.

72 rock samples analysed for gold and silver and multi-element analyses by induction coupled plasma @ $14.15 per sample plus 50¢ per lb. for crushing oversize samples.
34 silt samples analysed for gold and mercury and multi-element analyses by induction coupled plasma @ $14.15 per sample.
378 soil samples analysed for gold and mercury and multi-element analyses by induction coupled plasma @ $14.15 per sample.
161 soil samples analysed for gold and silver @ $7.00 per sample.
65 of the above samples were fire-assayed for gold and silver @ $12.00 each.

Total analytical costs	$ 17,678.90
Sample shipment costs	327.40

Samples were collected during the period July 1st to August 31st.

Total	$ 183,358.92

Work was carried out equally on all claims within the Troitsa Peak (North) and Troitsa Peak (South) claim groups. The costs are attributed proportionally between the two claim groups according to the number of claim units in each group:

Troitsa Peak(North) Claim Group - 72 units $= \frac{72}{156} \times 183,358.92$ =$ 84,627.19

Troitsa Peak (South) Claim Group - 84 units $= \frac{84}{156} \times 183,358.92$ = 98,731.73

APPENDIX 2

ROCK GEOCHEMISTRY - ANALYTICAL DATA

THE ABBREVIATIONS USED TO IDENTIFY THE ROCK TYPES OF THE FOLLOWING SAMPLED ARE:-

O	- Old Shovel Volcanics
T	- Troitsa Comples (feldspar porphyry intrusive unless otherwise stated)
G	- Green Sediments
B	- Bell Volcaniclastics
C	- Cummins Creek Tuffs (lapilli tuffs unless otherwise stated)
A	- Aplitic Dykes
F	- Felsic Dykes (quartz eye porphyry)
G	- Granitic Intrusions

Alt.	- Altered
Atg.	- Argillic
Prop.	- Propylitic
Qtz.	- Quartz
Vn.	- Vein
Bx.	- Breccia
Fels.	- Feldspar
Porph.	- Porphyry

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Attention:

Report No: 82-93-011 Page 1 of 1
Samples Arrived: July 15, 1982
Report Completed: July 27, 1982
For Project: 107
Analyst: E.T. & VGG Staff
Invoice: 6837 Job # 82-038

Sample Marking	Au ppb	Hg ppb				Rock Type
WT 1R	20	100				C (Prop. alt.)
2	30	150				C (Arg. alt.)
3	80	75				C (Prop. alt.)
4	nd	20				Qtz. vn. + pyrite in C
5	nd	100				C (Arg. alt.)
6	nd	30				C (Arg. alt.)
7	15	20				C (Prop. alt)
8	15	65				C (Prop. alt.)
9	10	60				C (Arg. alt.)
10	10	20				C (Prop. alt.)
11	45	5				Qtz. vn. + pyrite in C
12	nd	20				C (Arg. alt.)
13	80	370				Qtz. vn. + pyrite in C
14	nd	25				C
15	5	35				C (Arg. alt.)
16	10	25				C
17	10	70				C (Arg. alt.)
18	nd	70				C
19	10	200				C (Arg. alt.)
20	10	230				C (Arg. alt.)
21	5	40				C
22	20	65				C (Prop. alt.)
23	5	310				C (Arg. alt.)
24	15	110				C (Arg. alt. + Qtz. vn.)
25	30	50				C (Arg. alt.)
WT 26R	20	35				C (Prop. alt.)

REMARKS:

One copy sent to N. Cawthorn at Houston, B.C.
ICP Results will be sent at a later date.

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Report No: 82-93-012 Page 2 of 2
Samples Arrived:
Report Completed:
For Project:
Analyst:

Sample Marking	Hg ppb	Au ppb				Rock Type
JE 1R	50	nd				Qtz. ven. in C
WT 27R	10	370 ✓				Qtz. vn. in C
28	35	15				Qtz. vn. in C
29	20	20				C (Arg. alt. + pyrite)
30	15	10				Qtz. vn in C
WT 31R	20 ✓	10 ✓				C (Arg. alt.)

REMARKS:

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Attention:

Report No: 82 - 93 - 013 Page 1 of 1
Samples Arrived: July 19, 1982
Report Completed: July 29, 1982
For Project: 107
Analyst: VGC Staff
Invoice# 6844 Job# 82 - 098

Sample Marking	Hg ppb	Au ppb				Rock Type
WT 32R	450	10				C (Arg. alt.)
33R	160	10				Qtz. vn. in C
34R	115	nd				Qtz. vn. in C
35R	70	5				C (Arg. alt.)
36R	55	nd				Qtz. vn. in C
38R	100	nd				C (Arg. alt.)
40R	1050	10				"
41R	70	70				Qtz. vn (float)
WT 42R	20	190				Qtz. vn. in C

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Attention:

Report No: 82-93-018 Page 1 of 1
Samples Arrived: July 28, 1982
Report Completed: August 10, 1982
For Project: #107
Analyst: VGC Staff
Invoice: 6874 Job # 82-117

Sample Marking	Hg ppb	Au ppb				Rock Type
CS - 1R	5	nd				C + pyrite
2	15	5				C + Qtz
3	10	3500				C + Qtz.vn.
4	10	10				C + pyrite
5	1800	40				"
CS - 6R	15	nd				"
JE - 2R	30	10				Qtz. vn.
10	75	10				"
11	15	10				C + pyrite
JE - 12R	5	nd				Qtz. vn.
WT - 37R	55	10				C (Arg. alt.)
39	700	20				"
43	15	10				C + Qtz.
44	10	110				"
45	15	10				"
46	10	nd				"
47	10	nd				"
48	80	10				"
49	35	nd				"
50	25	nd				"
WT - 51R	5	40				"

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Attention:

Report No: 82-93-022 Page 1 of 1
Samples Arrived: August 6, 1982
Report Completed: August 17, 1982
For Project: 107
Analyst:
Invoice #6897 Job# 82-135

Sample Marking	Hg ppm	Au ppm				Rock Type
WT 54 R	55	30				C (Arg. alt.)
55 R	800	280				Qtz. vn. in C
56 R	2800	170				C (Arg. alt.)
57 R	100	10				"
58 R	480	50				"
59 R	100	40				Qtz. vn. in C
60 R	75	nd				"
61 R	110	nd				C (Arg. alt.)
62 R	115	nd				Qtz. vn. in C
63 R	750	40				C (Arg. Alt)
64 R	190	10				"
WT 65 R	130	10				"

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Report No: 82-93-023 Page 1 of 2
Samples Arrived: August 13, 1982
Report Completed: August 20, 1982
For Project: 107
Analyst: VGC Staff
Invoice#6911 Job#82-151

Sample Marking	Hg ppm	Au ppb				Rock Type
TA 6 R	80	10				Qtz. vn. (float)
9	5	390				"
10	10	140				"
11	20	10				T
13	10	30				Qtz. vn. in T
14	40	10				Qtz. vn. (float)
15	nd	25				Qtz. vn. in T
16	5	60				"
17	10	nd				"
TA 18 R	10	10				"
TA 21 R	10	10				Qtz. (float)
22	10	40				Qtz. vn. in T
23	15	nd				"
24	10	10				"
25	35	10				"
26	50	5				"
27	10	10				"
28	20	nd				"
29	45	10				"
30	25	nd				"
31	10	10				"
32	10	40				"
33	10	20				"
TA 34 R	85	nd				"
TA #1 52 R	10	50				"
53	750	nd				"
54	880	nd				"
55	410	nd				"
TA #1 56 R	50	nd				"
WS 1 R	45	10				Qtz. vn. in C
2	40	10				C + pyrite & chalco.
3	45	nd				C + pyrite
WS 4R	85	10				"

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Report No: 82-93-023 Page 2 of 2
Samples Arrived:
Report Completed:
For Project:
Analyst:

Attention:

Sample Marking	Hg ppm	Au ppb				Rock Type
WS 5R	150	nd	)	Rejected		Qtz. vn. in C
6	165	nd				"
WS 7	30	nd				C (arg. alt. tuff)
CS 7R	60	nd				C
(Sample pl. explained in error This is spectrum sample						

REMARKS:

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Attention:

Report No: 82-93-025 Page 1 of 2
Samples Arrived: August 10,1982
Report Completed: August 20, 1982
For Project: 107
Analyst: VGC Staff
Invoice # 6914 Job#82-140

Sample Marking	Hg ppm	Au ppb				Rock Type
TA 13R	45	10				Qtz. vn. in T
TA 16 R	nd	nd				"
17	10	nd				"
TA 18 R	10	5				"
TA 21 R	5	10				Qtz (float)
TA 22 R	10	10				Qtz. vn. in T
TA 31 R	30	10				"
TA #125 R	1450	nd				Qtz. float
26	100	nd				"
27	10	nd				T silicified tuff
28	5	nd				Qtz. vn. in T
29	35	nd				T + Qtz. vn. & arg. alt.
30	25	10				Calcite vn.
31	20	5				T tuff
32	35	nd				T flow
33	55	nd				T chaotic breccia
34	230	5				T arg. alt. tuff
35	95	10				T flow
36	45	nd				T tuff
37	10	20				Qtz. vn. in T
38	95	nd				"
39	10	10				Qtz. float
40	5	10				Qtz. vn. in T
41	35	5				C arg. alt.
42	40	10				Qtz. vn. in C
43	30	nd				"
44	60	10				"
TA #145R	530	10				"

REMARKS:

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Report No: 82-93-024 5 Page 2 of 2
Samples Arrived:
Report Completed:
For Project:
Analyst:

Attention:

Sample Marking	Hg ppm	Au ppb				Rock Type
TA#1 46R	60	nd				Qtz. vn. in C
47	2100	nd				Qtz, vn. in T
48	140	nd				"
49	30	5				O
50	220	nd				Qtz. vn. in T
TA #1 51R	35	10				Qtz. vn. in C

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Attention:

Report No: 82-93-027 Page 1 of 1
Samples Arrived: August 19, 1982
Report Completed: August 26, 1982
For Project: 107
Analyst: VGC Staff
Job No. 82-165
Invoice No.6925

Sample Marking	Ag ppm	Au ppb				Rock Type
CS 7 R	1.6	1200				Qtz. vn. in C
8	4.2	1400				"
9	16.5	1790				"
10	1.7	2980				"
11	0.8	150				C prop. alt. + Qtz. vn.
12 A	0.8	80				"
12 B	0.1	40				"
13	1.8	215				"
14	0.4	50				"
15	0.2	55				"
16 A	42.5	30				"
16 B	nd	20				"
17	nd	20				"
18	nd	20				C
19	0.1	35				"
CS 20 R	0.1	20				"

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Attention:

Report No: 82-93-036 Page 1 of 4
Samples Arrived: August 19, 1982
Report Completed: Sept.3, 1982
For Project: 107 Job No. 82-166
Analyst: VGC Staff Invoice No. 6957

Sample Marking	Ag ppm	Au ppb				Rock Tyne
WS 100R	0.7	nd				T arg. alt chaotic brec
01	2.2	5				"
02	1.2	10				As above + Qtz
03	0.9	15				T arg alt chaotic brecc
04	0.9	10				As above + qtz.
05	0.5	10				"
06	1.4	10				"
07	0.4	nd				"
08	0.4	nd				"
09	0.7	nd				"
10	1.2	10				C arg. alt.
11	1.7	nd				"
12	0.5	nd				T arg alt chaotic brecc
13	0.8	nd				"
14	0.9	nd				"
15	0.9	nd				"
16	1.5	10				"
17	0.5	15				"
18	0.3	nd				"
19	0.4	nd				"
20	0.1	nd				" + Qtz.
21	0.6	nd				"
22	0.2	nd				"
23	0.4	nd				T arg alt chaotic brecci
24	1.8	10				"
25	0.4	nd				" + Qtz.
26	0.2	nd				T arg alt chaotic brecci
27	0.4	nd				" + amethystine qtz.
28	0.4	nd				T arg alt chaotic brecci
29	0.4	nd				"
30	0.3	15				"
31	0.8	15				"
32	0.3	nd				"
33	0.7	nd				"
34	0.6	nd				"
35	0.5	nd				T Feldspar porphyry
36	0.4	nd				T arg alt chaotic brecci
37	0.2	nd				"
WS 138R	0.4	nd				"

REMARKS:

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Report No: 82-93-036 Page 2 of 4
Samples Arrived:
Report Completed:
For Project: Job No.
Analyst: Invoice No.

Attention:

Sample Marking	Ag ppm	Au ppb				Rock Type
WS 139R	1.3	20				T arg alt chaotic brecci
40	3.3	nd				"
41	0.3	30				"
42	0.7	15				"
43	0.3	nd				"
44	0.2	nd				"
45	0.4	10				"
46	0.7	10				"
47	0.2	nd				"
48	0.3	nd				"
49	2.3	10				"
50	130.3	30				Qtz. vn. + galena
51	1.3	nd				T arg alt chaotic brecci
52	1.7	30				"
53	0.5	nd				"
54	0.7	nd				T feldspar porphyry
55	0.1	nd				"
56	0.3	nd				"
57	3.4	30				"
58	0.4	5				T arg alt chaotic brecci
59	0.4	5				"
60	0.6	10				"
61	0.2	nd				"
162	2.4	nd				" + Qtz.
200	2.0	45				C arg alt + pyrite
01	3.6	55				"
02	25.3	1300				" + Qtz
03	20.1	480				Qtz.vn.
04	0.8	nd				C arg alt
05	0.7	nd				"
06	0.8	10				"
07	2.3	60				"
08	2.0	nd				" + Qtz
09	2.2	20				"
10	3.2	50				"
11	4.2	30				"
12	1.7	nd				C prop alt
13	2.0	600				C arg alt + qtz.
WS 214R	1.4	nd				"

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Attention:

Report No: **82-93-036** Page **3** of **4**
Samples Arrived:
Report Completed:
For Project: **Job No.**
Analyst: **Invoice No.**

Sample Marking	Ag ppm	Au ppb				Rock Type
WS 215R	1.5	10				C prop alt + qtz
16	5.8	50				C arg alt + qtz
17	7.5	30				"
18	6.7	20				"
19	3.6	70				"
20	2.9	5				"
21	1.4	15				"
22	0.5	nd				T arg alt chaotic bx+Qtz
23	0.4	nd				"
24	0.3	nd				"
25	0.5	nd				T arg alt chaotic breccia
26	0.6	10				"
27	5.5	35				"
28	0.9	nd				C prop alt + qtz
29	10.0	6500				Qtz vn in C
30	3.3	20				C arg alt + qtz
31	0.3	nd				C prop alt
32	0.3	nd				C arg alt + qtz
33	28.2	25				"
34	2.9	85				"
35	1.8	10				"
36	1.8	30				"
37	3.4	5				"
38	1.8	nd				"
39	1.3	20				Qtz vn
40	2.9	nd				C arg alt + qtz
41	1.6	nd				C prop alt + qtz
42	4.6	120				Qtz vn
43	7.4	210				"
44	0.8	25				C arg alt
45	2.1	10				C prop alt + qtz
46	1.5	125				"
47	0.7	nd				"
48	1.1	30				Qtz vn
49	1.8	90				Qtz vn
50	8.4	150				C arg alt + qtz
51	7.5	nd				Qtz vn
52	0.4	10				C prop alt + qtz
WS 253R	0.3	10				"
254R	nd	5	(See report 82-93-046)			"

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Report No: **82-93-036** Page **4** of **4**
Samples Arrived:
Report Completed:
For Project: **Job No.**
Analyst: **Invoice No.**

Attention:

Sample Marking	Ag ppm	Au ppb				Rock Type
WS 255R	2.8	20				C arg alt + qtz
56	0.9	nd				"
57	0.6	nd				"
58	1.7	20				Qtz vn
59	0.6	nd				C prop alt + qtz
60	3.1	nd				C arg alt + qtz
61	1.0	nd				C arg alt
62	5.4	60				"
63	4.4	10				" + qtz
64	0.4	nd				C arg alt
65	0.1	nd				" + qtz
66	0.1	10				C prop alt
67	0.5	nd				C arg alt + qtz
68	1.2	nd				"
69	2.4	70				"
70	2.7	nd				"
71	0.8	nd				"
72	0.3	nd				"
73	1.3	5				C prop alt + qtz
74	0.5	10				"
75	1.9	nd				C arg alt + qtz
76	2.4	45				"
77	1.4	nd				C prop alt + qtz
78	0.6	nd				"
79	0.4	nd				C arg alt + qtz
80	1.2	nd				"
81	0.7	10				"
82	0.7	nd				C prop alt + qtz
83	1.5	nd				C arg alt + qtz
84	1.9	5				C arg alt
85	0.5	nd				C arg alt + qtz
86	0.7	nd				C prop alt + qtz
87	0.2	nd				"
WS 288R,	2.0,	25,				"

REMARKS:

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Attention:

SEP - 8 1982

Report No: 82-93-037 Page 1 of 1
Samples Arrived: August 20, 1982
Report Completed: Sept. 7, 1982
For Project: 107 Job No. 82-172
Analyst: VGC Staff Invoice No. 6958

Sample Marking	Ag ppm	Au ppb				Rock Type
SP 1R	0.2	nd				T prop alt chaotic bx
#2	108.1	2050				Qtz. vn. in T
SP 3R	9.5	550				"
WS 8R	0.5	15				Qtz. vn. in C (float)
9	48.0	10				Qtz + galena (float)
WS 10R	0.5	10				T feldspar porphyry

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Attention:

Report No: 82-93-048 Page 1 of 2
Samples Arrived: August 27, 1982
Report Completed: Sept. 21, 1982
For Project: 107 Job No. 82-179
Analyst: VGC Staff Invoice No. 7003

Sample Marking	Au ppb	Ag ppm				Rock Type
SP 2R	10	0.5				T arg alt bx + qtz
3	20	0.8				"
4	1550	94.4,	1m			Qtz. vn.
5	45	5.2				T arg alt bx + qtz
6	10	0.8				"
7	250	2.8				"
8	nd	0.4				"
9	5	0.4				"
10	10	0.4				"
11	10	0.5				"
12	nd	0.1				"
13	95	3.0				"
14	30	2.1				"
15	30	2.0				"
16	10	0.5				"
17	nd	0.3				T arg alt bx
18	nd	0.7				"
19	nd	0.3				"
20	nd	0.6				T prop alt bx
21	nd	0.2				"
22	30	0.3				"
SP 23R	20	0.8				"
MS 300R	990,	2.2	2m	Trench 1 Remains		C prop alt
301	680	2.7				C arg alt
302	615	3.3		565' 2.4 / 10m.		"
303	300	2.5				"
304	240	1.4				C prop alt
305	1420,	3.5	2m	Trench 2. Remains		" + qtz
306	120	1.1				C prop alt
307	50	0.3				"
308	210	1.1				"
309	20	0.5				"
310	40	3.6		Value. End Trench		C arg alt
311	120	4.4				C arg alt + qtz
312	160	9.6,		245', 11.55 / 4m		"
313	240	15.6,				"
314	460	16.6,				"
315	30	2.9				"
MS 316R	20,	0.9,				C arg alt

REMARKS:

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Attention:

Report No: **82-93-048** Page **2** of **2**
Samples Arrived:
Report Completed:
For Project: Job No.
Analyst: Invoice No.

Sample Marking	Au ppb	Ag ppm				Rock Type
WS 317R	40	0.4				C arg alt
318	125	1.1				C arg alt + qtz
319	nd	0.2				Qtz vn
320	35	0.6				C arg alt
321	30	0.2				C arg alt
322	75	1.3				C arg alt + qtz
WS 323R	60	0.8				C arg alt

REMARKS:

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Attention:

Report No: 82-93-049 Page 1 of 2
Samples Arrived: Sept. 3, 1982
Report Completed: Sept. 21, 1982
For Project: 107 Job No. 82-198
Analyst: VGC Staff Invoice No. 7004

Sample Marking	Ag ppm	Au ppb				Rock Type
WT 90 R	1.8	40				Qtz. vn. in C
91	0.8	5				"
WT 92 R	5.1	25				"
CS 21 R	41.4	>10000				Qtz. vn. in C
22	27.1	>10000				"
23	2.0	100				"
24	1.3	130				"
25	0.1	20				C arg alt + qtz
26	nd	10				Qtz vn
27	0.7	30				C arg alt + qtz
28	0.1	130				C + qtz
29	1.9	45				Qtz vn
30	2.0	nd				"
31	4.6	70				"
32	0.3	15				"
33	0.4	25				C arg alt + qtz
34	0.7	nd				Qtz vn.
35	0.4	nd				C arg alt
36	0.9	nd				Qtz vn
CS 37 R	0.9	nd				"
W.S. 254 R	nd	5				C prop alt + qtz
89	nd	10				C prop alt
90	nd	10				"
91	nd	30				"
92	0.1	nd				"
93	0.9	20				" + qtz
94	1.0	25				qtz vn
95	1.1	10				C prop alt + qtz
96	1.3	30				"
97	0.6	5				qtz vn
98	0.5	40				"
299	nd	25				C arg alt + qtz
W.S. 400R	0.4	nd				"

REMARKS:

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Attention:

Report No: **82-93-049** Page **2** of **2**
Samples Arrived:
Report Completed:
For Project: **Job No.**
Analyst: **Invoice No.**

Sample Marking	Ag ppm	Au ppb				Rock Type
W.S. 401R	2.0	nd				C arg alt
02	1.8	15				"
03	nd	30				C prop alt + qtz
04	0.1	10				C arg alt + qtz
05	0.5	nd				C prop alt
06	0.7	20				"
07	0.5	10				"
08	0.3	80				"
09	nd	nd				"
10	0.3	nd				"
11	0.3	nd				"
12	1.0	10				"
13	0.4	10				"
14	0.5	5				C arg alt + qtz
15	1.3	nd				
16	6.5	65				"
17	0.5	5				C arg alt
18	0.8	10				"
19	0.5	25				C prop alt
20	1.2	nd				C arg alt
21	0.4	nd				C prop alt
22	0.2	15				"
23	0.9	5				C arg alt
24	0.5	30				"
25	3.1	685				qtz vn
26	0.9	nd				T arg alt chaotic bx
27	0.2	45				"
28	0.3	15				"
29	1.1	15				" + qtz
30	0.6	20				"
31	9.1	15				"
32	1.0	20				T prop alt chaotic bx
33	0.4	15				T arg alt chaotic bx
34	0.4	10				"
35	0.2	20				T feldspar porphyry
36	0.3	5				"
37	0.7	30				"
38	1.2	70				"
W.S. 439R	0.2	nd				Calcite-qtz-siderite flo

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Attention:

Report No: 82-93-055 Page 1 of 1
Samples Arrived: Sept. 8, 1982
Report Completed: Sept. 27, 1982
For Project: 107 Job No. 82-204
Analyst: VGC Staff Invoice No. 7020

Sample Marking	Hg ppb	Au ppb				Rock Type
WT 102R	85	nd				C
105	20	nd				C float
106	20	nd				C
107	20	nd				"
108	200	nd				Qtz float
115	280	10				"
116	80	30				"
117	55	10				C
120	15	10				C + calcite
121	20	5				C
122	15	5				Qtz
123	50	10				"
124	60	20				"
125	25	25				"
126	90	30				"
127	20	20				gossan
128	25	nd				"
WT 129R	40	nd				C

REMARKS:

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Attention:

Report No: 82-93-046 Page 1 of 1
Samples Arrived: Sept. 9, 1982
Report Completed: Sept. 20, 1982
For Project: 107 Job No. 82-205
Analyst: VGC Staff Invoice No. 6999

Sample Marking	Ag ppm	Au ppb				Rock Type
WT 200 R	1.4	5				C prop alt + qtz vn
01	0.4	10				C prop alt
02	0.8	15				Qtz vn
03	1.0	5				C arg alt
04	0.6	5				Qtz vn
05	0.4	nd				C prop alt + qtz
06	0.2	nd				"
07	0.5	10				"
08	1.0	nd				"
09	0.5	35				"
10	0.9	10				C prop alt
11	1.1	20				Qtz vn
12	35.5	50	0.8			"
13	3.1	15				C prop alt
14	46.4	235	0.5			Qtz vn
15	1.4	nd				Fault bx
16	3.5	15				Qtz vn
WT 217 R	0.6	20				"
SP 100R	0.1	5				T flow prop alt

REMARKS:

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Report No: 82-93-008 Page 2 of 5
Samples Arrived:
Report Completed:
For Project:
Analyst:

Sample Marking	Hg ppb (Mercury)	Ag ppm (Silver)	Au ppb (Gold)			Rock Type
BH 20 R	—	nd	nd			Qtz vn in C
21	—	0.1	35			"
22	—	21.0	305			"
23R	—	8.2	nd			"
24R1	—	0.2	5			"
24R2	—	0.2	5			"
25R	—	27.3	30			"
26	—	13.2	30			"
27	—	0.3	5			"
28	—	0.3	5			"
32	—	3.1	60			Tarn alt
BH 34R	—	0.2	15			Siderite
PS 1R	—	5.1	160			Qtz vn in C

REMARKS:

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Report No: 82-93-008 Page 3 of 5
Samples Arrived:
Report Completed:
For Project:
Analyst:

Rock Samples

Sample Marking	Ag ppm	Au ppb				Rock Type
PS 2R	6.3	nd				Qtz vn in C
3	3.0	1085				"
4	nd	nd				"
5	nd	15				Barite
6	12.1	75				Calcite
7	5.4	90				
8	31.7	40				Siderite
9	4.6	60				Qtz vn in
10	0.3	5				"
11	1.3	10				"
12	nd	nd				"
13	1.0	20				"
14	0.1	10				"
17	0.7	55				"
18	1.0	10				"
19	0.2	5				"
20	4.9	90				"
21	18.1	230				"
22	298.1	160				"
23	238.7	290				"
24	31.1	10				"
PS 28R	1.8	40				T Qtz vn in C
29	1.9	900				"
30	4.6	800				"
31	4.7	240				Qtz vn in T
32	0.8	20				Qtz vn in T
33	5.7	45				"
34	0.8	130				"
35	1.8	10				"
36	1.3	20				"
37	2.4	35				"
PS 38R	8.0	100				"
TB 14R	0.4	20				Qtz vn in C
15	1.0	10				"
16	0.1	10				"
TB 17R	0.7	20				"

REMARKS:

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Report No: 82-93-008 Page 4 of 5
Samples Arrived:
Report Completed:
For Project:
Analyst:

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Rock Samples

Sample Marking	Ag ppm	Au ppb	Hg ppb			Rock Type
TR 18R	0.4	10	—			Qtz vn in C
21	11.7	10	—			"
TR 22 R	2.1	10	—			"
TR 25 R	1.4	nd	—			"
			—			
			—			
			—			
			—			
			—			
TR 18 R	0.9	10	—			C ars alt
19	59.6	185	—			Qtz vn in C
21	18.3	nd	—			C
23	8.2	10	—			Barite
24	2.4	60	—			T chaotic bx
25	3.0	25	—			"
TR 26 R	3.1	20	—			"
TR 39 R	0.3	15	—			kaolinised bx
40	0.1	nd	—			Qtz vn in C
42	0.3	65	—			"
43	0.3	nd	—			C prop alt
44	51.6	1000	—			Qtz-float
46	0.3	nd	—			Qtz vn in C
TR 47R	2.0	nd	—			Qtz vn in C

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Report No: 82-93-008 Page 5 of 5
Samples Arrived:
Report Completed:
For Project:
Analyst:

Rock Samples

Sample Marking	Ag ppm	Au ppb				Rock Type
TR 48R	0.6	nd				Qtz vn in C
49	1.8	45				"
50	18.2	35				"
54	34.8	250				"
TR 55	0.5	nd				"

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Report No: 82-93-010 Page 1 of 2
Samples Arrived: July 15, 1982
Report Completed: July 27, 1982
For Project: 103
Analyst: VGC Staff
Invoice# 6833 Job# 82 - 085

Sample Marking	Ag ppm	Au ppb				Rock Type
BH35R	nd	nd				Calcite
39	1.2	60				Qtz vn in C
41	nd	20				"
BH 42 R	0.2	nd				"
PH47RA	3.1	nd				T prop alt
47RB	0.2	10				"
49R	0.2	45				"
57	10.6	10				"
59	0.2	20				T arg alt
60	0.7	10				T
61	0.2	nd				Qtz vn in C
62	0.1	5				"
63	0.7	nd				C cherty tuff
PH64R	nd	nd				"
TR57R	26.5	15				Qtz vn in C
58	1.8	nd				"
59	9.6	90				"
60	1.8	15				"
61	0.6	25				"
62	8.4	30				"
63	9.0	120				"
64	0.2	15				"
66	0.7	20				Qtz vn in T
68	nd	nd				T bladed fels porph
69	3.0	5				Qtz vn in T
70	0.3	5				T cherty tuff
71	0.4	nd				"
TR73R	nd	nd				Ferricrete

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One copy sent to Union Carbide, Vancouver, B.C.

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Samples Arrived:
Report Completed:
For Project:
Analyst:

Sample Marking	Ag ppm	Au ppb				Rock Type
TR74R	0.1	nd				Qtz vn in T
75	0.2	nd				T chaotic bx
TR77R	0.2	5				Qtz vn in T
TB40R	0.8	30				Qtz vn in C
41	0.8	20				"
42	0.3	10				"
43	0.3	10				"
44	0.1	10				"
45	0.1	nd				"
46	0.6	60				"
47	9.4	60				"
48	nd	nd				"
52	2.2	10				Qtz vn in B
56	5.2	25				"
TB58R	0.9	nd				"

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Report No: 82 - 93 - 015 Page 1 of 2
Samples Arrived: July 22, 1982
Report Completed: August 3, 1982
For Project: #103
Analyst: VGC Staff
Invoice# 6851 Job# 82 - 101

Sample Marking	Ag ppm	Au ppb				Rock Type
BH 69R	nd	10				Qtz vn in D
70	0.8	570 ✓				"
70–1	2.4	50				"
79	0.4	nd				C arg alt
80	nd	nd				Barite
86	1.1	30				Qtz vn in C
BH 87 R	0.5	35				"
TB 69 R	1.7	185 ✓				Qtz vn in C
70	nd	20				"
71	0.1	5				"
72	0.3	nd				"
73	0.2	25				"
TB 74R	1.1	105				"

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Report No: 82-93-015 Page 2 of 2
Samples Arrived:
Report Completed:
For Project:
Analyst:

Sample Marking	Ag ppm	Au ppb				Rock Type
(TB) 76 R	0.3	20				Qtz vn in C

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TELEPHONE: 986-5211
AREA CODE: 604

• Specialising in Trace Elements Analyses •

Certificate of Geochemical Analyses

–IN ACCOUNT WITH–
Tom Richards

Attention:

Report No: 82-93-021 Page 2 of 3
Samples Arrived:
Report Completed:
For Project:
Analyst:

Sample Marking	Ag ppm	Au ppb				Rock Type
PS 61 R	0.3	nd				Qtz vn in C
62 R	3.7	nd				"
63 R	10.1	210				"
68 R	2.6	10				Qtz vn in C
69 R	0.9	150				"
70 R	0.7	nd				"
71 R	658.8	1400				Qtz float
72 R	21.3	330				Qtz float
73 R	2.4	70				Qtz vn in C
PS 74 R	1.5	180				"

VGC

1521 PEMBERTON AVE.,
NORTH VANCOUVER, B.C.,
CANADA V7P 2S3

TELEPHONE: 986-5211
AREA CODE: 604

Certificate of Geochemical Analyses

• Specialising in Trace Elements Analyses •

-IN ACCOUNT WITH-
Tom Richards

Attention:

Report No: 82-93-030
Samples Arrived:
Report Completed:
For Project:
Analyst:

Job No.
Invoice No.

Sample Marking	Ag ppm	Au ppb				Rock Type
T3 105 R	0.4	40				Qtz vn in T
05 A	1.4	30				"
06	0.6	30				"
07	0.4	10				"
08	1.4	10				"
10	0.2	nd				"
11	1.0	nd				"
14	nd	nd				"
15	1.0	nd				"
16	nd	nd				"
18	0.2	nd				T arg alt
19	nd	30				Qtz vn in T
20	1.6	10				T
T3 121 R	31.4	20				Qtz vn in T

Signed: _____

*Mo x 1.6683 = % MoS_2 1 Troy oz./ton = 34.28 ppm 1 ppm = 0.0001% nd = none detected ppm = parts per million

All values are believed to be correct to the best knowledge of the analyst based on the method and instruments used.

VANGEOCHEM LAB LTD.
1521 PEMBERTON AVE.,
NORTH VANCOUVER B.C.,
CANADA V7P 2S3

TELEPHONE: 986-5211
AREA CODE: 604

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-IN ACCOUNT WITH-
Tom Richards

Attention:

Report No:82-93-030
Samples Arrived:
Report Completed:
For Project:
Analyst:

Page 3 of 3

Job No.
Invoice No.

Sample Marking	Ag ppm	Au ppb				Rock Type
TR 123 R	7.9	10				T chaotic bx
TR 124 R	0.8	40				Qtz vn in C

REMARKS:

Signed: _____

% Mo x 1.6683 = % MoS2

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Tom Richards
P.O. Box 1572
Houston, B.C. V0J 1Z0
Attention:

Report No: 82-93-031 Page 1 of 2
Samples Arrived: August 20, 1982
Report Completed: August 31, 1982
For Project: 103 Job No. 82-173
Analyst: VGC Staff Invoice No. 6940

Sample Marking	Ag ppm	Au ppb				Rock Type
PS 86 R	3.3	15				Qtz-calcite-fluorite
87	2.1	30				"
88	2.4	80				C
89	3.6	10				Qtz vn in T
90	2.7	nd				"
93	0.9	15				"
94	0.9	10				Qtz-calcite-fluorite
95	0.7	nd				"
96	0.8	40				Qtz vn in C
97	1.4	90				"
98	14.5	50				"
100	10.7	40				Qtz vn in B
02	2497.7 ★✓	15				Qtz-chalco vn in B
03	2548.0 ★✓	130 ✓				"
04	54.6	10				Qtz vn in B
05	68.6	5				"
06	3.0	25				"
07	2.6	60				"
08	1.9	20				"
09	8.7 ✓	>10000 ✓				Barite vn in B
10	39.4 ✓	60				Qtz vn in B
11	5.7	15				"
12	3.0	700 ✓				"
13	1.4	35				Qtz vn in C
14	7.4	880 ✓	P5th.9			"
15	1.7	15				Qtz-fluorite
16	0.5	70				"
17	0.8	310 ✓				Qtz vn in C
18	1.7	80				"
19	0.2	75				C
20	0.8	70				Qtz vn in C
PS 121 R	0.6	40				Calcite
TB 146 R	1.2	5				Qtz vn in T
47	0.4	5				"
48	0.7	10				"
49	3.8	40				"
52	0.5	30				Qtz vn in B
54	1.9	20				"
TB 156 R	0.2 ✓	35 ★				"

REMARKS: One copy sent to Union Carbide office.

★ Estimated

Signed:

% Mo x 10000 = ppm Mo; 1 Troy oz/ton = 34.28 ppm; 1 ppm = 0.0001 %; nd = none detected; ppm = parts per million

VGC
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NORTH VANCOUVER, B.C.,
CANADA V7P 2S3

TELEPHONE: 986-5211
AREA CODE: 604

Certificate of Geochemical Analyses

•Specialising in Trace Elements Analyses•

–IN ACCOUNT WITH–
Tom Richards

Attention:

Report No: 82-93-031
Samples Arrived:
Report Completed:
For Project:
Analyst:

Page 2 of 2

Job No.
Invoice No.

Sample Marking	Ag ppm	Au ppb				Rock Type
TB 160- R	0.2	5				Qtz vn in B

REMARKS

Signed:

% Mo x 1.6683 = % MoS_2 1 Troy oz./ton = 34.28 ppm 1 ppm = 0.0001% nd = none detected ppm = parts per million

VANGEOCHEM LAB LTD.
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NORTH VANCOUVER, B.C.,
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AREA CODE: 604

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Specialising in Trace Elements Analyses

-IN ACCOUNT WITH-

Mr. Tom Richard
Box 44, R.R. #1
Kispiox Valley, Hazelton, B. C.
Attention: V0J 1Y0

Report No: 82-93-40 Page 1 of 3
Samples Arrived: Aug. 24, 1982
Report Completed: Sept. 8, 1982
For Project:
Analyst: VGC Staff

Job No. 82-180
Invoice No. 6965

Sample Marking		Ag ppm	Au ppb				Rock Type
BH	197R	21.7	15				B lapilli tuff
	98	3.8	20				"
	99	0.3	10				"
BH	200	0.8	10				Qtz vn in C
PH	176	0.3	25				C arg alt fels porph
	78	0.8	10				"
	79	2.0	20				Qtz vn in C
	82	4.0	50				"
	83	nd	30				"
	84	0.1	10				Siderote
	85	3.1	25				Qtz vn in C
	86	2.2	5				"
	87	0.3	10				C arg alt lapilli tuff
	88	2.5	30				Qtz vn in C
PH	189R	0.6	nd				"
PS	129R	>10000.0*	>10000*				Qtz float + sulphides
	30	>100.0	480				Qtz vn in C
	31	8.8	60				"
	32	3.8	350				"
	33	1.8	30				"
	34	28.3	320				"
	35	2.1	65				C arg alt tuff
	36	14.0	30				Qtz vn in C
	37	2.1	5				"
	38	1.0	5				"
	39	0.6	10				"
	40	36.5	190				"
	41	27.4	60				"
	42	12.2	100				"
	43	0.5	120				"
	44	1.9	10				"
	45	1.0	nd				"
PS	146R	5.1	10				"

REMARKS:

Green Copy sent to Union Carbide.
* Estimated

Signed: [signature]

% Mo x 1.6683 = % MoS_2 1 Troy oz./ton = 34.28 ppm 1 ppm = 0.0001%

VANGEOCHEM LAB LTD.
1521 PEMBERTON AVE.,
NORTH VANCOUVER, B.C.,
CANADA V7P 2S3

TELEPHONE: 986-[illegible]
AREA CODE: 604

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-IN ACCOUNT WITH-
Mr. Tom Richards

Attention:

Report No: 82-93-040 Page 2 of 3
Samples Arrived:
Report Completed:
For Project: Job No.
Analyst: Invoice No.

Sample Marking	Ag ppm	Au ppb				Rock Type
PS 147R	>100.0	1600				Qtz vn in C
TB 170	9.6	nd				Qtz vn in B
71	6.6	nd				B lapilli tuff
72	39.3	nd				"
73	9.5	10				B cherty tuff
74	0.8	10				"
76	11.2	25				Qtz vn in B
77	1.5	5				Qtz vn in C
78	0.6	10				"
80	2.2	270				"
81 1	0.6	10				"
81 2	1.2	60				"
82	0.3	nd				"
83	1.0	180				"
84	0.3	150				"
TB 185	26.0	>10000*				"
TR 125R 1F	5.4	2900				Qtz vn in C
25 1	0.7	nd				"
25 2	0.9	nd				"
25 3	0.2	10				"
27	nd	15				"
28	0.3	20				"
29 1	0.7	10				"
29 2	0.2	10				"
30 1	0.7	10				"
30 2	0.4	10				"
31	0.8	30				"
32 A	0.5	30				"
32	>100.0	1500				"
33	7.6	1300				"
34	11.6	320				"
35	3.4	1300				"
36	37.5	160				"
40	2.7	50				"
41	>1000.0	1800				"
42	36.4	20				"
43	>1000.0	7600				"
TR 144R	47.1	150				"

REMARKS. * Estimated

Signed

* Mo x 1.6683 = % MoS

VGC
1521 PEMBERTON AVE.,
NORTH VANCOUVER, B.C.,
CANADA V7P 2S3

TELEPHONE: 986-[illegible]
AREA CODE: 604

Certificate of Geochemical Analyses

•Specialising in Trace Elements Analysis

–IN ACCOUNT WITH–

Mr. Tom Richard

Attention:

Report No: 82 - 93 - 40 Page 3 of 3
Samples Arrived:
Report Completed:
For Project: Job No.
Analyst: Invoice No.

Sample Marking	Ag ppm	Au ppb				Rock Type
TR 145 R	28.4	410				Qtz vn in C
146	46.5	410				"
TR 147 R.	1.4	30				"

REMARKS:

Signed: [signature]

% Mo x 1.6683 = % MoS, 1 Troy oz./ton = 34.28 ppm 1 ppm = 0.0001% nd = none detected ppm = parts per million

VANGEOCHEM LAB LTD.
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NORTH VANCOUVER, B.C.,
CANADA V7P 2S3

TELEPHONE: 986-5211
AREA CODE: 604

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-IN ACCOUNT WITH-
Mr. Tom Richards
Box 44,, R.R. #1
Kispiox Valley, Hazelton, B. C.
Attention: V0J 1Y0

Report No: 82-93-054 Page 1 of 3
Samples Arrived: Sept. 14, 1982
Report Completed: October 1, 1982
For Project: 103 Job No. 82-216
Analyst: VGC Staff Invoice No. 7036

ROCK SAMPLES

Sample Marking	Ag ppm	Au ppb				Rock Type
BH 210R	0.2	nd				Qtz vn in D
212R	0.3	nd				"
213R	nd	nd				"
216R	1.0	95				Qtz vn in C
217R	0.2	nd				Qtz vn in D
218R	54.2	20				Qtz vn in C
219R	>100.0	30				"
220R	7.7	45				"
221R	0.8	15				"
230	0.3	nd				
BH 232R	1.8	10				Qtz vn in T
						"

REMARKS: Invoice sent to Union Carbide office
One copy of data sent to Union Carbide.

Signed: [signature]

% Mo x 1.6683 = % MoS_2 1 Troy oz/ton = 34.28 ppm 1 ppm = (illegible)

VANGEOCHEM LAB LTD.
1521 PEMBERTON AVE.,
NORTH VANCOUVER, B.C.,
CANADA V7P 2S3

TELEPHONE: 986-5211
AREA CODE: 604

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Specialising in Trace Elements Analyses

-IN ACCOUNT WITH-

Tom Richards

Attention:

Report No: 82-93-054
Samples Arrived:
Report Completed:
For Project:
Analyst:

Job No.
Invoice No.

Sample Marking	Ag ppm	Au ppb				Rock Type
TB 186R	nd	5				C arg alt
TR 189R	0.8	130				Qtz vn in C
190	1.2	115				"
191	0.4	nd				"
192	6.7	60				Barite
193	0.1	20				Qtz vn in C
194	0.2	20				"
195	2.1	160				"
196	1.0	45				"
197	2.2	50				C arg alt
207	1.1	35				Qtz vn in C
208	2.0	40				C arg alt
209	1.0	35				Qtz vn in C
210	1.5	50				C arg alt
211	0.1	20				"
212	nd	nd				"
213	nd	30				B arg alt lapilli tuff
214	0.8	15				"
215	0.1	35				Siderite
216	0.1	65				Qtz vn in C
218	0.3	nd				"
TR 219 R	nd	nd				"
TR 153R	7.7	60				Qtz vn in C
162	0.5	20				"
163	1.2	30				"
164	27.2	60				"
165	34.3	30				"
166	7.9	nd				"
167	5.6	20				"
168	22.4	170				"
169	0.4	20				"
170	2.5	20				"
171	2.2	20				"
TR 172	0.3	15				"

REMARKS:

Signed

VANGEOCHEM LAB LTD.
1521 PEMBERTON AVE.,
NORTH VANCOUVER, B.C.,
CANADA V7P 2S3

TELEPHONE: 986-5211
AREA CODE: 604

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–IN ACCOUNT WITH–
Mr. Tom Richards

Attention:

Report No: 82-93-054
Samples Arrived:
Report Completed:
For Project:
Analyst:

Page 3 of 3

Job No.
Invoice No.

Sample Marking	Ag ppm	Au ppb				Rock Type
TR 173R	1.0	20				Qtz vn in C
PS 152 R	8.4	20				C arg alt
153	1.5	40				F
154	0.2	80				amphibole hornfels
155	nd	20				Qtz vn in C
156	0.7	30				"
PS 157 R	0.7	80				Siderite
PS 173R	17.4	30				Qtz vn in T
174	2.9	80				"
175	1.2	60				Qtz vn in C
176	1.5	nd				"
177	4.4	30				"
178	0.3	20				"
179	0.1	15				"
180	12.8	20				Qtz vn in B
181	14.4	nd				"
182	0.3	nd				"
183R	0.8	10				Qtz vn in C
184	3.0	95				"
185	0.3	20				"
186	0.1	nd				"
PS 187 R	0.3	10				"

REMARKS: One copy and invoice sent to Union Carbide Exploration.

Signed.

% Mo x 1.6683 = %MoS2 1 Troy oz /ton = 34.28 ppm 1 ppm = 0.0001% ppb = parts per billion ppm = 0.0001%

ACME ANALYTICAL LABORATORIES LTD.   852 E. HASTINGS, VANCOUVER B.C.   PH:253-3158   TELEX:04-53124

ICP GEOCHEMICAL ANALYSIS

A .500 GRAM SAMPLE IS DIGESTED WITH 3 ML OF 3:1:2 HCL TO HNO3 TO H2O AT 90 DEG.C. FOR 1 HOUR. THE SAMPLE IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR: Ca,P,Mg,Al,Ti,La,Na,K,W,Ba,Si,Sr,Cr AND B. Au DETECTION 3 ppm.
SAMPLE TYPE - SOLUTION

DATE RECEIVED AUG. 3 1982   DATE REPORTS MAILED Aug 4/82   ASSAYER [signature] DEAN TOYE. CERTIFIED B.C. ASSAYER

UNION CARBIDE   PROJECT # SOLUTION [illegible]   FILE # [illegible]   PAGE # 1

SAMPLE #	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm
WT 1R	1	11	12	14	.4	6	2	72	5.13	228	2	ND	2	109	1	2	2	24	.24	.06	4	31	.27	127	.01	11	.79	.02	.48	2
WT 2R	1	3	24	13	.5	3	2	49	1.82	111	2	ND	2	29	1	2	2	11	.10	.02	5	15	.16	100	.01	14	.51	.01	.19	2
WT 3R	5	28	18	126	.5	43	36	1400	4.65	326	2	ND	2	35	2	2	2	44	.15	.12	7	47	1.28	76	.01	15	2.15	.01	.15	2
WT 4R	35	4	8	10	.6	4	2	53	1.13	184	2	ND	2	10	1	2	2	5	.02	.02	5	51	.96	146	.01	16	.39	.01	.23	2
WT 5R	14	36	12	27	.4	3	3	56	2.49	371	2	ND	2	105	1	2	2	12	.15	.12	6	2	.14	135	.01	15	.68	.01	.39	2
WT 6R	2	130	9	78	.2	18	17	1010	4.76	131	2	ND	2	46	1	2	2	14	1.29	.14	8	1	.89	92	.01	20	1.38	.01	.24	2
WT 7R	1	79	6	57	.2	12	12	824	3.49	37	2	ND	2	72	1	2	2	19	1.16	.12	7	1	.87	96	.01	16	1.83	.02	.24	2
WT 8R	9	8	9	108	.2	4	4	351	1.87	126	2	ND	2	12	1	2	2	5	.05	.08	7	26	.16	101	.01	17	.68	.01	.14	2
WT 9R	3	3	10	23	.2	2	1	37	.55	61	2	ND	2	9	1	2	2	2	.06	.01	11	26	.02	92	.01	19	.31	.01	.12	2
WT 10R	1	7	15	78	.1	4	4	679	2.04	74	2	ND	2	6	1	2	2	12	.15	.07	10	18	.45	106	.01	21	1.24	.06	.15	2
WT 11R	25	6	31	47	3.7	4	1	31	.62	94	2	ND	2	5	1	2	2	5	.02	.01	2	51	.02	46	.01	24	.25	.01	.14	2
WT 12R	13	3	8	9	1.1	3	2	68	.86	89	2	ND	2	14	1	2	2	8	.04	.01	4	31	.10	63	.01	20	.44	.01	.17	2
WT 13R	63	9	20	33	1.4	5	2	41	1.67	510	2	ND	2	15	1	2	2	5	.18	.09	7	87	.03	167	.01	26	.28	.01	.12	2
WT 14R	6	6	16	46	.1	3	2	169	1.70	67	2	ND	2	15	1	2	2	8	.22	.06	12	1	.29	112	.01	18	.93	.07	.22	2
WT 15R	1	6	10	5	.3	1	1	27	1.39	134	2	ND	2	71	1	2	2	2	.19	.02	7	1	.04	134	.01	15	.44	.02	.26	2
WT 16R	1	49	9	64	.2	14	11	302	4.17	94	2	ND	2	62	1	2	2	22	.23	.10	7	8	.67	165	.01	17	1.86	.03	.22	2
WT 17R	17	14	7	79	.1	5	7	128	2.97	46	2	ND	2	28	1	2	2	9	.24	.12	12	2	.40	96	.01	20	1.22	.01	.22	2
WT 18R	15	3	8	9	.3	1	1	18	1.00	75	2	ND	2	45	1	2	2	4	.14	.06	14	3	.05	84	.01	17	.48	.01	.25	2
WT 19R	25	3	6	6	.5	1	1	12	1.27	167	2	ND	2	76	1	2	2	3	.10	.06	5	6	.03	83	.01	18	.37	.01	.25	2
WT 20R	2	8	14	16	.3	4	4	55	2.87	122	2	ND	2	84	1	2	2	9	.28	.04	7	1	.09	177	.01	14	.72	.02	.44	2
WT 21R	1	11	10	88	.1	17	16	421	4.96	24	2	ND	2	33	1	2	2	19	.22	.05	5	5	.80	124	.01	17	2.30	.02	.16	2
WT 22R	1	2	5	42	.1	4	4	703	1.52	48	2	ND	2	31	1	2	2	5	1.50	.05	11	1	.32	96	.01	15	.84	.01	.17	2
WT 23R	9	3	6	9	.4	1	1	28	1.02	109	2	ND	2	17	1	2	2	3	.06	.03	11	4	.02	102	.01	17	.41	.01	.17	2
WT 24R	8	2	5	7	.1	1	1	19	.80	60	2	ND	2	7	1	2	2	3	.05	.02	10	5	.03	82	.01	19	.39	.01	.17	2
WT 25R	16	3	13	6	1.2	1	1	18	.47	89	2	ND	2	10	1	2	2	3	.05	.02	13	1	.04	83	.01	16	.49	.01	.21	2
WT 26R	2	13	5	48	.1	5	5	254	1.82	54	2	ND	2	11	1	2	2	2	.16	.06	13	1	.31	89	.01	20	.99	.01	.17	2
STD A-1	1	32	43	187	.4	35	13	949	2.82	9	2	ND	2	42	1	2	2	59	.61	.10	6	70	.77	329	.09	5	1.99	.02	.19	2

UNION CARBIDE PROJECT # 107 SOLUTION FROM VANGEOCHEM FILE # 87-0274 PAGE # .

SAMPLE #	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm
JF 19	7	7	77	12	.4	7	3	386	1.18	42	2	ND	2	16	1	2	2	8	.55	.01	4	52	.15	410	.01	16	.41	.01	.04	2
WT 27R	19	2	5	3	.3	4	1	12	.66	96	2	ND	2	6	1	2	2	2	.01	.01	4	61	.01	127	.01	19	.16	.01	.08	2
WT 28R	22	14	7	16	1.1	7	3	58	1.09	214	2	ND	2	9	1	2	2	11	.06	.04	3	85	.17	154	.01	25	.40	.01	.07	2
WT 29R	3	8	20	35	.7	4	3	201	2.26	16064	2	ND	2	30	1	5	2	4	.14	.04	19	27	.32	623	.01	19	.75	.01	.13	2
WT 30R	22	5	5	6	.3	7	3	25	.76	40	2	ND	2	12	1	2	2	3	.04	.02	4	102	.04	72	.01	20	.27	.01	.15	2
WT 31R	2	29	6	56	.1	9	11	1176	4.31	8	2	ND	2	21	1	2	2	75	.05	.20	2	5	.43	178	.01	7	1.98	.01	.06	2

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS, VANCOUVER B.C. PH:253-3158 TELEX:04-53124

ICP GEOCHEMICAL ANALYSIS

A .500 GRAM SAMPLE IS DIGESTED WITH 3 ML OF 3:1:3 HCL TO HNO3 TO H2O AT 90 DEG.C. FOR 1 HOUR. THE SAMPLE IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR: Ca,P,Mg,Al,Ti,La,Na,K,W,Ba,St,Sr,Cr AND B. Au DETECTION 3 ppb.
SAMPLE TYPE - SOLUTION

DATE RECEIVED AUG. 3 1982 DATE REPORTS MAILED Aug 4/82 ASSAYER DEAN TOYE, CERTIFIED B.C. ASSAYER

UNION CARBIDE PROJECT # SOLUTION FROM VANGEOCHEM FILE # 82-0745 PAGE # 1

SAMPLE #	Mo ppm	Cu ppm	Pb ppm	In ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppb	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm
WT 32R	3	51	12	106	.3	77	27	1047	4.71	123	2	ND	2	89	1	2	2	47	.87	.09	5	86	.30	98	.01	25	.72	.01	.16	2
WT 33R	16	8	10	39	.3	17	7	655	2.04	86	2	ND	2	8	1	2	2	7	.09	.02	11	24	.08	67	.01	25	.53	.02	.10	2
WT 34R	5	8	9	26	.2	8	3	358	1.36	40	2	ND	2	16	1	2	2	3	.26	.02	16	20	.12	90	.01	25	.47	.02	.17	2
WT 35R	11	8	20	23	1.1	8	3	52	3.24	284	2	ND	2	122	1	2	2	29	.04	.11	3	24	.04	99	.01	25	.57	.01	.22	2
WT 36R	6	17	11	22	.3	4	2	130	1.36	51	2	ND	2	13	1	2	2	4	.04	.02	20	24	.04	122	.01	21	.57	.01	.19	2
WT 38R	4	25	12	33	.3	4	5	137	3.98	94	2	ND	2	118	1	2	2	20	.09	.14	4	5	.03	134	.01	26	.63	.01	.22	2
WT 40R	104	40	27	78	6.9	19	10	427	3.99	138	2	ND	2	247	1	2	2	28	.35	.07	4	43	.17	97	.01	27	.62	.01	.18	2
WT 41R	49	13	19	7	18.2	7	3	95	.95	108	2	ND	2	12	1	2	2	8	.03	.01	2	99	.03	51	.01	29	.24	.01	.11	2
WT 42R	922	12	72	39	8.4	14	16	114	7.34	1157	2	ND	2	6	1	8	2	34	.09	.07	2	63	.41	70	.01	26	.61	.01	.06	2

VANGEOCHEM LA[illegible] MITED
1521 PEMBERTON AVENUE
NORTH VANCOUVER, B.C. V7P 2S3

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS, VANCOUVER B.C. PH:253-3158 TELEX:04-53124

ICP GEOCHEMICAL ANALYSIS

A .500 GRAM SAMPLE IS DIGESTED WITH 3 ML OF 3:1:3 HCL TO HNO3 TO H2O AT 90 DEG.C. FOR 1 HOUR. THE SAMPLE IS DILUTED TO 10 MLS WITH WATER.
THIS LEACH IS PARTIAL FOR: Ca,P,Mg,Al,Ti,La,Na,K,W,Ba,Si,Sr,Cr AND B. Au DETECTION 3 ppm.
SAMPLE TYPE - SOLUTION

DATE RECEIVED AUG 1982 DATE REPORTS MAILED Aug 19/82 ASSAYER [signature] DEAN TOYE, CERTIFIED B.C. ASSAYER

UNION CARBIDE PROJECT # 107 - SOLUTION FROM VANGEOCHEM FILE # 82-0877 Lb 82-107 PAGE # 1

SAMPLE #	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm
CS-1R	1	36	10	62	.5	8	10	529	4.52	17	2	ND	2	25	1	2	2	57	.74	.13	5	63	.80	549	.02	19	1.24	.05	.12	2
CS-2R	2	42	4	133	.5	4	7	1276	1.69	2	2	ND	2	19	1	2	2	6	1.66	.06	8	116	.56	113	.01	15	.96	.02	.08	2
CS-3R	13	51	8	62	1.5	3	7	1260	3.08	33	2	ND	2	84	1	2	2	14	4.34	.04	3	76	.94	1674	.01	16	.79	.01	.10	2
CS-4R	2	28	9	96	.2	4	9	749	4.57	102	2	ND	2	29	1	2	2	43	2.06	.16	15	22	.74	83	.01	10	1.36	.04	.19	2
CS-5R	7	475	41	19893	8.7	3	13	1327	9.07	24	2	ND	2	9	193	2	20	69	.90	.08	2	43	1.08	58	.01	10	1.76	.01	.15	2
CS-5R 10X	1	58	6	4941	1.2	1	2	182	1.22	2	2	ND	2	1	29	2	3	9	.12	.01	2	9	.14	7	.01	2	.21	.01	.02	[illegible]
CS-6R	2	6	7	165	.2	4	7	220	3.85	2	2	ND	2	7	1	2	2	29	.13	.08	5	54	.31	134	.01	16	.69	.07	.11	2
JE-2R	4	102	4	41	.6	12	6	170	1.87	31	2	ND	2	4	1	2	2	12	.13	.08	6	53	.44	77	.01	15	.89	.01	.17	2
JE-10R	8	22	7	60	.5	21	10	719	2.70	51	2	ND	2	112	1	2	2	16	4.41	.08	18	59	.86	247	.01	11	1.25	.01	.14	2
JE-11R	2	6	7	55	.3	15	11	519	2.95	5	2	ND	2	21	1	2	2	21	1.33	.13	18	63	.74	189	.01	11	1.24	.04	.20	2
JE-12R	63	8	14	20	.4	7	2	100	1.09	19	2	ND	2	4	1	2	2	6	.09	.03	2	164	.06	91	.01	24	.24	.01	.09	2
MT-37R	21	28	13	46	.6	6	6	274	3.94	95	2	ND	2	22	1	2	2	17	.04	.09	7	19	.04	45	.01	23	.66	.01	.24	2
MT-39R	18	22	94	28	5.4	2	2	65	2.91	172	2	ND	2	150	1	2	2	13	.07	.14	7	20	.04	63	.01	19	.56	.01	.25	2
MT-43R	9	8	5	8	.3	7	3	73	.82	86	2	ND	2	12	1	2	2	5	.09	.01	2	140	.06	17	.01	18	.19	.01	.04	2
MT-44R	3	14	9	34	.3	7	7	1308	2.37	134	2	ND	2	220	1	2	2	18	11.91	.03	9	31	.90	210	.01	17	.97	.01	.10	2
MT-45R	38	7	8	4	1.3	5	3	33	2.23	285	2	ND	2	10	1	2	2	10	.11	.06	4	63	.05	156	.01	19	.43	.01	.24	2
MT-46R	1	37	6	49	.3	12	9	419	2.86	40	2	ND	2	27	1	2	2	38	1.24	.09	10	30	.68	94	.01	13	1.44	.03	.24	2
MT-47R	29	18	7	21	.6	7	6	208	2.39	81	2	ND	2	5	1	2	2	29	.12	.06	5	53	.62	129	.01	17	.97	.02	.17	2
MT-48R	11	9	10	28	.5	6	2	54	1.37	44	2	ND	2	5	1	2	2	7	.02	.01	10	39	.04	28	.01	19	.56	.01	.13	2
MT-49R	24	4	9	5	.4	3	1	16	.89	17	2	ND	2	4	1	2	2	3	.01	.01	15	56	.03	102	.01	13	.45	.01	.23	2
MT-50R	8	10	2	13	.4	5	2	68	1.50	34	2	ND	2	3	1	2	2	24	.03	.03	3	90	.14	54	.01	18	.48	.01	.13	2
MT-51R	48	23	12	18	.4	5	3	63	2.06	97	2	ND	2	2	1	2	2	16	.06	.02	3	62	.16	22	.01	15	.38	.01	.13	2

Houston, corp

VANGEOCHEM L. IMITED
1521 PEMBERTON AVENUE
NORTH VANCOUVER, B.C. V7P 2S3

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS, VANCOUVER B.C. PH:253-3158 TELEX:04-53124

ICP GEOCHEMICAL ANALYSIS

A .500 GRAM SAMPLE IS DIGESTED WITH 3 ML OF 3:1:3 HCL TO HNO3 TO H2O AT 90 DEG.C. FOR 1 HOUR. THE SAMPLE IS DILUTED TO 10 MLS WITH WATER.
THIS LEACH IS PARTIAL FOR: Ca,P,Mg,Al,Ti,La,Na,K,W,Ba,Si,Sr,Cr AND B. Au DETECTION 3 ppm.
SAMPLE TYPE - SOLUTION

DATE RECEIVED AUG 16 1982 DATE REPORTS MAILED Aug 19/82 ASSAYER D. Toye DEAN TOYE, CERTIFIED B.C. ASSAYER

UNION CARBIDE PROJECT # 107 - SOLUTION FROM VANGEOCHEM FILE # 82-0878 Job 82-115 PAGE # 1

SAMPLE #	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm
MT 54R	140	26	10	58	2.7	18	9	161	5.37	293	2	ND	2	83	1	6	2	57	.13	.06	3	55	.11	19	.01	2	.45	.01	.06	2
MT 55R	1063	4	19	12	20.4	6	1	23	1.94	314	2	ND	2	47	1	13	2	14	.01	.03	2	46	.02	15	.01	2	.17	.03	.06	2
MT 56R	324	8	13	12	4.1	5	2	46	3.09	474	2	ND	2	83	1	17	2	17	.02	.05	2	36	.02	17	.01	2	.22	.01	.06	2
MT 57R	61	3	21	5	1.6	3	1	31	2.27	311	5	ND	2	118	1	4	2	17	.03	.13	4	27	.03	44	.01	2	.26	.02	.13	2
MT 58R	171	13	28	38	3.9	10	3	69	7.13	362	3	ND	2	119	1	7	2	78	.03	.23	4	34	.03	60	.01	2	.44	.01	.14	2
MT 59R	27	15	9	34	.9	8	5	957	4.81	140	4	ND	2	13	1	3	2	14	.05	.05	4	38	.07	26	.01	2	.44	.01	.11	2
MT 60R	26	14	14	44	.8	8	4	399	3.98	141	2	ND	2	61	1	2	2	14	.04	.06	6	28	.05	30	.01	2	.41	.01	.11	2
MT 61R	29	4	37	34	1.7	10	4	83	2.58	295	2	ND	2	23	1	2	2	26	.05	.15	3	27	.03	63	.01	2	.43	.01	.17	2
MT 62R	32	12	13	55	1.3	20	3	387	3.22	116	2	ND	2	215	1	2	2	21	1.27	.05	6	37	.64	29	.01	2	.50	.04	.06	2
MT 63R	313	28	22	33	4.9	12	5	192	4.78	250	2	ND	2	156	1	5	2	25	.06	.11	3	33	.03	55	.01	2	.46	.02	.15	2
MT 64R	15	13	30	22	1.5	9	4	39	3.30	289	2	ND	2	125	1	4	2	17	.07	.13	5	16	.03	73	.01	2	.45	.01	.21	2
MT 65R	15	21	14	52	.7	11	2	349	3.47	109	3	ND	2	25	1	2	2	21	.05	.04	6	36	.07	33	.01	2	.43	.02	.10	2
STD A-1	1	30	38	172	.4	34	12	957	2.73	12	2	ND	2	35	1	2	2	54	.63	.10	8	74	.75	278	.08	4	1.98	.02	.20	2

Houston Toye

VANGEOCHEM LAB LIMITED
1521 PEMBERTON AVENUE
NORTH VANCOUVER, B.C. V7P 2S3

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS, VANCOUVER B.C. PH:253-3158 TELEX:04-53124

ICP GEOCHEMICAL ANALYSIS

A .500 GRAM SAMPLE IS DIGESTED WITH 3 ML OF 3:1:3 HCL TO HNO3 TO H2O AT 90 DEG.C. FOR 1 HOUR. THE SAMPLE IS DILUTED TO 10 MLS WITH WATER.
THIS LEACH IS PARTIAL FOR: Ca,P,Mg,Al,Ti,La,Na,K,W,Ba,Si,Sr,Cr AND B. Au DETECTION 3 ppb.
SAMPLE TYPE - SOLUTION

Invoice #6453

DATE RECEIVED AUG 1982 DATE REPORTS MAILED Aug 2/82 ASSAYER D. Toye DEAN TOYE, CERTIFIED B.C. ASSAYER

UNION CARBIDE PROJECT # SOLUTION FROM VANGEOCHEM JOB# 82-151 FILE # 82-0966 PAGE # 1 Proj. 107

SAMPLE #	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppb	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm
T.A.6R	5	22	9	77	.4	3	5	974	3.82	58	4	ND	2	7	1	2	2	29	.17	.07	5	67	1.29	25	.01	10	1.82	.03	.04	2
T.A.9R	10	41	31	9	17.8	7	4	32	1.85	29	2	ND	2	7	1	47	5	3	.01	.01	3	161	.02	247	.01	14	.07	.01	.02	2
T.A.10R	31	94	14	4	17.9	13	8	28	3.82	19	2	ND	2	3	1	3	2	2	.01	.01	2	157	.01	41	.01	17	.08	.01	.01	2
T.A.11R	3	23	5	64	.4	14	7	234	2.70	13	2	ND	2	66	3	2	2	83	.76	.13	22	56	.76	90	.10	20	1.10	.19	.16	2
T.A.13R	5	4	21	14	6.8	5	1	45	1.51	74	2	ND	2	43	1	2	2	19	.05	.08	18	96	.09	66	.01	17	.40	.02	.27	2
T.A.14R	5	7	68	23	8.5	5	1	59	2.23	139	3	ND	2	20	1	2	2	11	.03	.03	5	114	.02	40	.01	21	.15	.01	.07	2
T.A.15R	3	14	11	47	1.8	10	7	138	4.13	104	2	ND	2	31	3	2	2	56	.46	.15	19	40	.71	55	.04	19	1.03	.08	.09	2
T.A.16R	4	11	14	12	6.9	12	4	58	2.47	84	2	ND	2	23	1	2	2	20	.17	.08	16	108	.14	84	.01	18	.52	.05	.20	2
T.A.17R	3	11	8	55	.7	9	5	293	3.46	205	2	ND	2	37	1	2	2	87	.58	.16	21	46	1.37	59	.06	18	1.64	.10	.08	2
T.A.18R	3	13	9	49	2.0	8	5	203	3.75	124	2	ND	2	30	1	2	2	97	.50	.16	21	37	1.22	44	.10	18	1.61	.07	.06	2
T.A.21R	5	11	9	32	2.2	16	6	195	2.79	58	2	ND	2	26	1	2	2	32	.32	.10	18	206	.46	51	.01	19	.79	.06	.09	2
T.A.22R	2	15	14	51	3.2	10	7	311	3.47	107	2	ND	2	31	1	2	2	72	.40	.15	20	40	1.03	79	.01	20	1.35	.06	.05	2
T.A.23R	2	14	8	55	.3	10	8	183	3.40	49	2	ND	2	43	1	2	2	96	.72	.15	22	41	1.21	53	.14	19	1.39	.11	.07	2
T.A.24R	3	19	7	64	.1	15	11	196	4.23	169	2	ND	2	33	1	2	2	67	.74	.16	21	59	.85	47	.12	21	1.03	.08	.05	2
VANGEO STD	18	145	32	72	2.4	513	10	484	2.92	14	2	ND	3	24	1	4	2	38	1.54	.08	5	59	.56	238	.04	29	.84	.04	.21	2
T.A.25R	3	18	7	72	.2	32	13	297	3.50	104	2	ND	2	29	1	2	2	77	.52	.13	23	97	1.14	45	.12	21	1.57	.07	.07	2
T.A.26R	3	7	7	11	.3	7	1	57	2.47	100	2	ND	2	40	1	2	2	31	.41	.07	14	76	.18	56	.11	12	.48	.10	.12	2
T.A.27R	2	12	14	54	3.5	9	5	401	3.70	50	3	ND	2	19	3	2	2	68	.40	.17	22	35	1.16	53	.01	15	1.43	.04	.06	2
T.A.28R	3	19	11	66	2.0	12	10	417	3.68	116	2	ND	2	29	1	2	2	81	.52	.16	24	41	1.13	57	.01	21	1.43	.06	.07	2
T.A.29R	3	6	11	22	2.4	5	1	115	3.24	282	2	ND	2	38	1	2	2	68	.33	.14	14	46	.47	65	.10	16	.83	.08	.07	2
T.A.30R	4	8	4	12	.3	5	1	69	1.77	19	2	ND	5	10	1	2	2	30	.07	.05	18	75	.31	69	.01	20	.65	.04	.15	2
T.A.31R	2	13	11	60	.4	12	7	355	3.64	125	2	ND	2	47	1	2	2	87	.94	.16	22	47	1.47	46	.14	17	1.76	.10	.05	2
T.A.32R	5	7	17	15	9.1	10	5	14	2.23	41	2	ND	2	18	1	2	2	5	.04	.05	16	54	.03	52	.01	14	.22	.05	.14	2
T.A.33R	3	13	18	20	.8	2	1	96	3.71	38	3	ND	2	21	1	2	2	39	.07	.14	6	23	.31	48	.01	11	.73	.02	.14	2
T.A.34R	3	10	13	50	.1	6	2	141	3.51	170	2	ND	2	31	1	2	2	56	.09	.16	23	35	.48	907	.01	8	1.11	.03	.14	2
T.A. 81 52R	31	39	50	37	2.6	13	7	217	4.06	253	2	ND	2	15	1	2	2	32	.15	.10	13	72	.29	59	.01	11	.76	.02	.12	2
T.A.81 53R	5	22	20	59	.3	5	5	425	1.75	293	2	ND	2	9	1	2	2	32	.14	.05	5	90	.08	94	.01	7	.43	.01	.06	2
T.A. 81 54R	7	10	11	44	.1	6	3	116	1.03	234	3	ND	2	5	1	4	2	14	.10	.04	5	106	.05	50	.01	9	.27	.03	.02	2
T.A. 81 55R	4	14	13	68	.2	5	3	343	1.62	59	3	ND	2	5	1	2	2	101	.07	.03	9	52	.39	49	.01	19	.84	.03	.08	2
T.A. 81 56R	2	5	23	42	.1	2	1	273	1.44	35	2	ND	2	7	1	2	2	8	.10	.06	31	26	.19	59	.01	19	.61	.04	.12	2
M.S 1R	62	29	9	10	2.5	4	3	167	2.44	20	2	ND	2	2	1	2	2	61	.01	.01	2	42	.30	35	.01	18	.58	.01	.14	2
M.S 2R	19	48	7	19	.4	4	5	293	5.54	66	4	ND	2	2	1	2	2	137	.02	.02	2	18	.44	17	.01	9	1.25	.06	.07	2
M.S 3R	5	55	8	65	1.1	8	15	673	6.61	29	3	ND	2	2	1	2	2	165	.02	.02	2	15	1.21	19	.01	16	2.11	.04	.06	2
M.S 4R	3	30	18	91	.8	8	14	1188	7.35	61	4	ND	2	2	1	2	2	113	.04	.05	2	17	1.94	66	.01	13	2.24	.01	.11	2

VANGEOCHE[illegible]AB LIMITED
1521 PEMBER[illegible]ON AVENUE
NORTH VANCOUVER, B.C. V7P 2S3

UNION CARBIDE PROJECT # SOLUTION FROM VANGEOCHEM JOB# 82-151 FILE # 82-0966

SAMPLE #	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm
M.S. 5 R	22	3	9	2	1.5	3	1	18	.96	152	2	ND	2	8	1	2	2	7	.01	.10	14	19	.02	109	.01	14	.27	.01	.32	2
M.S. 6 R	4	1	4	3	.3	2	1	11	.33	50	2	ND	2	1	1	2	2	2	.03	.01	5	14	.01	41	.01	10	.27	.01	.22	2
M.S. 7 R	3	3	18	13	5.1	4	1	13	.66	99	2	ND	2	5	1	3	2	2	.01	.02	22	46	.01	64	.01	15	.31	.01	.16	2
C.S. 7 R	28	57	4	30	.4	4	11	205	4.60	41	2	ND	2	6	1	2	2	7	.23	.06	6	22	.10	32	.01	9	.49	.01	.17	2

VANGEOCHEM LAB LIMITED
1521 PEMBERTON AVENUE
NORTH VANCOUVER, B.C. V7P 2S3

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS, VANCOUVER B.C. PH:253-3158 TELEX:04-53124

ICP GEOCHEMICAL ANALYSIS

A .500 GRAM SAMPLE IS DIGESTED WITH 3 ML OF ~~1:1:1 HCL-HNO~~ HNO3 TO H2O AT 90 DEG.C. FOR 1 HOUR. THE SAMPLE IS DILUTED TO 10 MLS WITH WATER.
THIS LEACH IS PARTIAL FOR: Ca,P,Mg,Al,Ti,La,Na,K,W,Ba,Sr,Sr,Cr AND B. Au DETECTION 3 ppm.
SAMPLE TYPE - SOLUTION

DATE RECEIVED AUG 1982 DATE REPORTS MAILED Aug 28/82 ASSAYER D. Toye DEAN TOYE, CERTIFIED B.C. ASSAYER

UNION CARBIDE PROJECT # SOLUTION FROM VANGEOCHEM JOB# 82-140 FILE # 82-0965 PAGE # 1

SAMPLE #	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm
~~T.A. 13R~~	4	4	22	15	17.7	2	1	52	1.92	71	2	ND	2	35	1	2	2	21	.04	.10	15	24	.12	53	.01	22	.34	.05	.20	2
T.A. 16R	2	7	11	23	2.3	9	2	87	2.72	92	2	ND	2	33	1	2	2	93	.29	.12	19	28	.37	87	.02	29	.83	.07	.12	2
T.A. 17R	2	13	7	56	1.0	9	7	278	3.58	176	2	ND	2	26	1	2	2	82	.47	.15	20	22	1.23	41	.05	13	1.27	.06	.06	2
T.A. 18R	2	13	9	52	2.3	8	5	203	3.78	139	2	ND	2	30	1	2	2	91	.52	.16	21	21	1.14	51	.11	28	1.32	.08	.06	2
T.A. 21R	2	16	10	60	1.8	11	10	357	3.47	112	2	ND	2	35	1	2	2	55	.50	.13	17	41	.98	52	.01	9	1.17	.07	.06	2
T.A. 22R	2	8	12	37	3.1	4	1	208	3.00	168	2	ND	2	29	1	3	2	54	.25	.13	13	33	.46	81	.01	9	.85	.06	.07	2
T.A. 31R	2	8	9	40	1.2	5	3	267	2.98	247	2	ND	2	29	1	2	2	81	.55	.15	17	29	.98	47	.08	10	1.14	.07	.06	2
T.A.81 25R	3	20	6	5	.1	13	14	20	1.45	45	2	ND	2	6	1	4	2	3	.01	.01	2	144	.02	211	.01	25	.06	.02	.01	2
T.A.81 26R	2	7	7	55	.1	3	2	378	3.15	6	2	ND	2	11	1	2	2	14	.14	.14	17	17	.69	77	.01	11	.94	.04	.12	2
STD	19	146	33	73	2.3	505	10	478	3.09	15	2	ND	3	25	1	3	2	42	1.48	.08	4	56	.55	230	.03	24	.76	.04	.21	2
T.A.81 27R	4	6	7	59	.3	3	2	341	3.65	44	2	ND	3	8	1	2	2	39	.22	.13	8	21	.81	59	.01	12	.90	.05	.07	2
T.A.81 28R	5	23	96	65	2.5	4	2	237	2.54	8	2	ND	2	22	1	2	8	18	.33	.13	8	38	.30	91	.01	20	.63	.03	.10	2
T.A.81 29R	6	12	19	51	.3	7	2	114	2.78	49	2	ND	2	85	1	2	2	15	.92	.12	41	6	.18	213	.01	8	1.13	.04	.19	2
T.A.81 30R	1	1	11	6	.3	1	1	115	.30	2	2	ND	2	2470	1	2	3	2	22.55	.01	3	1	.18	117	.01	14	.08	.01	.01	2
T.A.81 31R	1	2	10	80	.2	3	3	962	2.35	9	2	ND	2	233	1	2	2	20	5.71	.07	19	15	1.73	29	.01	19	.60	.03	.11	2
T.A.81 32R	1	5	6	68	.1	2	5	365	2.53	6	2	ND	2	22	1	2	2	27	.70	.12	26	12	.85	65	.01	18	1.33	.04	.21	2
T.A.81 33R	1	1	5	27	.1	1	1	272	.80	3	2	ND	2	29	1	2	2	3	1.57	.03	33	17	.45	46	.01	17	.77	.05	.12	2
T.A.81 34R	6	9	9	39	.3	5	4	401	3.23	127	2	ND	2	16	1	2	2	75	.33	.16	20	16	.72	376	.01	20	1.23	.05	.15	2
T.A.81 35R	2	33	5	53	.1	9	7	599	3.23	62	2	ND	2	61	1	2	2	82	1.35	.15	16	36	.82	52	.03	12	1.11	.11	.06	2
T.A.81 36R	3	10	14	45	.5	9	2	283	3.89	61	2	ND	2	9	1	2	2	46	.25	.15	14	30	.71	39	.01	7	1.45	.03	.19	2
T.A.81 37R	4	44	37	35	.4	8	5	246	3.62	176	2	ND	2	11	1	2	2	27	.26	.15	14	26	.31	120	.01	17	.95	.02	.20	2
T.A.81 38R	5	15	13	62	.3	12	9	422	4.44	80	2	ND	2	16	1	2	2	83	.36	.16	18	24	1.00	108	.01	11	1.68	.04	.10	2
T.A.81 39R	6	16	17	48	.5	9	3	263	3.53	131	2	ND	2	11	1	2	2	52	.28	.14	16	33	.71	62	.01	9	1.22	.04	.16	2
T.A.81 40R	8	18	10	69	.2	9	6	420	3.97	110	2	ND	2	19	1	2	2	98	.34	.16	17	37	1.36	58	.01	12	1.81	.05	.09	2
T.A.81 41R	1	5	6	109	.1	1	5	655	4.33	47	2	ND	2	4	1	2	2	34	.17	.10	6	28	.75	56	.01	10	1.24	.05	.10	2
T.A.81 42R	1	5	10	71	.1	2	4	352	3.87	57	2	ND	2	4	1	2	2	25	.10	.07	4	45	1.17	78	.01	8	1.70	.02	.13	2
T.A.81 43R	2	13	1	16	.1	5	2	343	.92	2	2	ND	2	5	1	2	2	8	.09	.01	2	147	.24	282	.01	10	.40	.01	.03	2
T.A.81 44R	2	80	2	33	.1	5	4	486	1.91	10	2	ND	2	3	1	2	2	20	.11	.03	5	135	.71	48	.01	10	1.07	.02	.06	2
T.A.81 45R	3	5	8	20	.2	5	1	527	.54	89	2	ND	2	28	1	2	2	6	5.70	.02	4	117	.03	73	.01	12	.08	.01	.01	2

VANGEOC. A LAB LIMITED
1521 PEMBERTON AVENUE
NORTH VANCOUVER. B.C. V7P 2S3

UNION CARBIDE PROJECT # SOLUTION FROM VANGEOCHEM JOB# 82-140 FILE # 82-0965

SAMPLE #	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm
TA81 46R	3	4	24	32	.3	3	1	306	3.07	89	2	ND	2	9	1	2	2	45	.20	.07	6	46	.36	42	.01	24	.68	.10	.06	2
TA81 47R	25	10	9	65	.6	7	3	213	4.29	494	2	ND	2	39	1	2	2	26	.25	.13	13	58	.11	78	.01	23	.42	.07	.13	2
TA81 48R	2	23	5	50	.2	16	12	425	3.30	15	2	ND	2	39	1	2	2	81	.84	.14	23	47	.99	98	.01	13	1.15	.07	.06	2
TA81 49R	1	28	4	37	.2	29	11	637	3.39	38	3	ND	2	178	1	2	2	71	3.59	.10	15	47	.59	424	.18	24	1.76	.35	.08	2
TA81 50R	8	134	12	77	1.9	4	2	358	1.62	36	2	ND	2	7	1	3	2	25	.10	.04	9	73	.62	87	.01	23	.93	.02	.11	2
TA81 51R	2	10	5	54	.1	2	4	406	4.28	72	2	ND	2	5	1	2	2	36	.14	.11	7	22	.59	42	.01	22	1.06	.05	.10	2

VANGEOCHEM LAB L TED
1521 PEMBERTON AVENUE
NORTH VANCOUVER, B.C. V7P 2S3

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS, VANCOUVER B.C. PH:253-3158 TELEX:04-53124

ICP GEOCHEMICAL ANALYSIS

A .500 GRAM SAMPLE IS DIGESTED WITH 3 ML OF 3:1:3 HCL TO HNO3 TO H2O AT 90 DEG.C. FOR 1 HOUR. THE SAMPLE IS DILUTED TO 10 MLS WITH WATER.
THIS LEACH IS PARTIAL FOR: Ca,P,Mg,Al,Ti,La,Na,K,W,Ba,Si,Sr,Cr AND B. Au DETECTION 3 ppb.
SAMPLE TYPE - SOLUTION

Invoice # 7010

DATE RECEIVED SEPT 1982 DATE REPORTS MAILED Sept 23/82 ASSAYER D. Toye DEAN TOYE, CERTIFIED B.C. ASSAYER

UNION CARBIDE PROJECT # SOLUTION FROM VANGEOCHEM JOB# 82-198 FILE # 82-1130 PAGE # 1

SAMPLE #	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm
MT 90R	4	1731	106	230	1.9	18	18	1764	5.41	37	2	NB	2	8	1	2	3	97	.09	.09	8	77	2.69	188	.01	10	0.98	.01	.48	4
MT 91R	8	853	53	224	1.0	7	12	1388	2.66	17	9	NB	2	18	1	2	5	30	2.32	.05	9	32	.90	265	.01	18	2.13	.01	.26	2
MT 92R	2	6431	40	70	4.6	4	5	277	1.64	16	2	NB	2	5	1	2	2	7	.09	.02	3	67	.12	338	.01	4	.42	.01	.07	2
CS 21R	38	108	38	95	25.0	1	5	893	2.41	68	3	NB	2	5	1	2	2	10	.17	.04	6	39	.27	164	.01	3	1.19	.01	.17	2
CS 22R	39	38	61	121	13.4	2	9	618	3.79	85	2	NB	2	6	1	2	2	18	.15	.04	9	42	.61	246	.01	5	2.04	.01	.19	2
CS 23R	14	9	15	17	1.7	1	2	75	.80	76	2	NB	2	10	1	2	2	5	.32	.10	15	14	.07	379	.01	8	1.22	.01	.46	2
CS 24R	17	64	14	103	.7	1	9	557	4.26	51	2	NB	2	13	1	2	2	27	.33	.11	16	12	.94	486	.01	8	3.02	.02	.42	2
CS 25R	9	31	8	41	.1	3	11	448	4.84	29	2	NB	2	3	1	2	2	42	.09	.06	5	10	.81	41	.01	13	2.05	.03	.21	2
CS 26R	21	26	7	52	.2	2	5	912	3.75	2	2	NB	2	32	1	2	2	46	1.71	.05	6	13	.89	26	.01	6	2.17	.04	.12	2
CS 27R	12	56	11	37	.4	2	6	225	4.50	85	2	NB	2	8	1	2	2	19	.14	.05	5	14	.10	211	.01	13	1.01	.02	.29	2
CS 28R	2	33	9	83	.1	4	12	1098	5.22	8	4	NB	2	37	1	2	2	36	1.85	.06	10	7	.40	343	.01	6	1.50	.03	.26	2
CS 29R	181	38	20	27	1.9	2	6	87	1.91	44	3	NB	2	2	1	2	2	9	.04	.02	6	19	.03	27	.01	8	.73	.01	.23	2
CS 30R	230	94	40	33	1.6	4	9	280	1.34	22	49	NB	2	5	1	2	2	12	.63	.02	5	37	.07	37	.01	6	.76	.01	.22	2
CS 31R	273	13	28	24	5.5	2	7	34	1.81	20	2	NB	2	1	1	2	2	7	.03	.02	2	44	.03	11	.01	4	.61	.01	.20	2
STD A-1	1	33	38	176	.4	32	11	958	2.65	9	2	NB	3	32	1	2	2	55	.68	.09	10	76	.81	277	.09	10	2.63	.02	.24	2
VANGEO STD	18	153	29	71	1.9	481	10	478	2.34	8	2	NB	3	27	1	2	2	32	1.55	.07	7	74	.56	403	.04	31	1.25	.04	.25	2
CS 32R	7	178	5	47	.4	4	8	388	1.98	22	2	NB	2	5	1	2	2	32	.23	.05	5	35	.14	11	.01	8	1.00	.01	.09	2
CS 33R	30	14	7	8	.4	1	2	25	.88	24	2	NB	2	14	1	2	2	9	.09	.04	10	16	.04	104	.01	13	.85	.01	.33	2
CS 34R	109	27	9	24	.6	3	7	404	3.44	42	2	NB	2	17	1	2	2	19	.55	.04	4	38	.31	40	.01	11	.97	.01	.23	2
CS 35R	25	23	4	15	.4	2	3	64	1.36	26	2	NB	2	2	1	2	2	39	.05	.03	2	27	.03	49	.01	9	.85	.01	.23	2
CS 36R	58	8	8	4	1.0	1	2	22	1.61	35	4	NB	2	13	1	2	2	18	.01	.02	2	34	.03	31	.01	5	.57	.01	.26	2
CS 37R	110	35	8	14	1.1	6	5	81	1.43	20	2	NB	2	3	1	2	2	15	.04	.03	3	43	.02	26	.01	6	.66	.01	.19	2
MS 254R	1	142	9	102	.2	7	20	1459	5.07	3	2	NB	2	20	1	2	2	208	1.51	.05	4	13	1.72	33	.01	5	3.21	.07	.02	2
MS 289R	2	21	21	93	.1	5	15	1629	5.78	9	6	NB	2	75	2	2	2	138	3.76	.04	7	11	1.96	28	.01	2	3.84	.02	.12	2
MS 290R	1	134	10	120	.6	5	10	685	3.31	2	2	NB	2	11	1	2	2	109	.43	.04	4	18	1.22	29	.01	2	2.19	.05	.07	2
MS 291R	1	75	17	168	.3	7	16	1669	4.95	4	7	NB	2	30	1	2	2	172	2.27	.05	5	11	1.50	35	.01	6	3.46	.01	.53	2
MS 292R	1	46	12	211	.4	22	18	1292	5.28	8	2	NB	2	6	1	2	2	192	.28	.05	6	42	1.95	44	.01	2	3.34	.03	.08	2
MS 293R	1	112	13	138	.5	9	18	1745	6.00	15	2	NB	2	3	1	2	2	245	.14	.05	4	16	2.87	33	.01	2	3.83	.02	.06	2
MS 294R	1	159	11	135	.9	7	13	1488	4.23	5	2	NB	2	14	1	2	2	154	.83	.03	5	27	1.72	27	.01	2	2.68	.03	.03	2
MS 295R	1	102	341	199	.9	5	17	2102	5.47	20	3	NB	2	32	1	2	2	170	2.04	.05	6	9	2.51	32	.01	2	3.38	.02	.03	2
MS 296R	10	26	24	54	1.1	1	2	167	1.61	38	2	NB	2	4	1	2	2	27	.08	.02	4	8	.19	248	.01	6	.96	.01	.35	2
MS 297R	6	22	12	50	.6	3	5	563	1.45	32	2	NB	2	3	1	2	2	33	.05	.02	2	35	.48	47	.01	6	.96	.01	.21	2
MS 298R	4	11	19	32	.4	2	7	491	1.28	11	2	NB	2	3	1	2	2	19	.06	.02	5	13	.25	133	.01	9	1.04	.01	.32	2
MS 299R	1	8	8	69	.1	4	7	946	4.08	6	2	NB	2	6	1	2	2	79	.45	.10	7	8	.52	32	.01	2	2.24	.05	.23	2
MS 400R	4	18	7	61	.5	4	4	562	2.77	10	2	NB	2	3	1	2	2	85	.20	.10	6	11	.53	27	.01	8	2.19	.05	.28	2

VANGEOCHEM LAB LIMITED
1521 PEMBERTON AVENUE
NORTH VANCOUVER, B. C. V7P 2S3

UNION CARBIDE PROJECT # SOLUTION FROM VANGEOCHEM JOB# 82-198 FILE # 82-1130

SAMPLE #	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm
MS 401R	2	96	27	104	2.1	7	14	1322	6.69	41	2	ND	2	2	1	2	2	280	.14	.05	2	11	1.62	22	.01	2	3.89	.03	.11	2
MS 402R	3	86	23	88	3.7	11	13	1004	5.89	59	20	2	4	2	1	5	4	283	.02	.06	2	24	2.15	28	.01	2	4.04	.01	.25	3
MS 403R	1	38	7	101	.6	2	6	846	2.74	10	2	ND	2	3	1	2	2	114	.23	.05	7	9	1.00	14	.01	3	1.92	.06	.03	2
MS 404R	1	134	13	302	.1	10	31	2243	7.38	9	2	ND	2	3	2	2	2	227	.17	.05	2	13	1.92	20	.01	2	4.02	.02	.15	2
MS 405R	1	105	10	98	.6	10	21	1413	3.98	12	2	ND	2	14	1	2	2	147	2.33	.04	2	19	2.05	43	.02	2	2.50	.06	.01	2
MS 406R	2	180	15	108	1.5	9	23	1863	5.76	41	2	2	2	20	2	2	2	272	1.55	.04	2	14	2.57	15	.01	2	3.50	.05	.02	2
MS 407R	1	57	11	91	.7	5	12	1104	3.96	11	2	ND	2	7	1	2	2	133	.40	.04	3	7	1.72	26	.01	2	2.83	.05	.02	2
MS 408R	1	3	16	160	1.0	6	15	1336	5.74	13	2	ND	2	15	1	2	3	239	1.75	.05	2	13	2.29	18	.01	2	3.87	.03	.04	2
MS 409R	1	4	6	48	.2	3	4	946	2.02	2	2	ND	2	17	1	2	2	29	2.51	.07	7	16	.85	19	.01	2	1.54	.06	.12	2
MS 410R	1	80	11	73	.4	7	11	1419	3.19	2	2	ND	2	19	1	2	7	134	2.84	.04	2	24	1.38	35	.02	2	1.91	.06	.02	2
MS 411R	1	7	9	97	.6	10	19	1419	3.65	9	2	ND	2	20	1	2	6	131	3.59	.05	2	18	1.92	13	.02	2	2.42	.04	.03	2
MS 412R	1	154	15	138	1.4	10	20	2154	5.32	13	2	ND	2	28	1	2	2	237	3.14	.05	2	20	2.54	92	.03	2	3.20	.04	.01	2
MS 413R	1	85	11	81	.8	7	16	1663	4.21	10	2	ND	2	22	1	2	4	170	3.54	.04	2	16	2.15	26	.01	2	2.97	.04	.05	2
MS 414R	21	22	31	42	.4	1	2	336	1.23	23	2	ND	2	3	1	2	3	28	.13	.04	4	22	.39	25	.01	6	1.21	.03	.15	2
MS 415R	2	40	23	75	2.4	4	10	1182	4.92	145	12	ND	2	3	1	8	7	87	.29	.12	3	11	.88	12	.01	2	2.52	.05	.11	2
MS 416R	17	83	16	77	6.1	14	26	698	7.25	219	9	ND	2	2	1	2	7	167	.09	.05	2	22	1.63	17	.01	2	2.27	.03	.13	2
MS 417R	2	34	13	74	1.3	3	9	638	4.03	22	4	ND	2	5	1	2	4	93	.36	.11	5	8	.71	15	.01	2	2.39	.04	.04	2
MS 418R	3	107	25	156	3.3	12	20	1019	6.51	137	18	3	3	3	2	11	3	291	.09	.06	2	17	2.15	19	.01	2	4.14	.04	.11	5
MS 419R	1	85	19	115	.7	7	18	2149	6.14	17	2	ND	2	17	2	2	2	251	.88	.04	2	20	2.65	16	.01	2	4.18	.05	.01	2
MS 420R	2	71	13	97	.7	8	16	903	6.56	35	2	ND	2	1	1	2	2	280	.04	.05	2	25	1.37	17	.01	2	3.73	.04	.01	2
STD	18	142	33	70	2.9	496	11	506	2.38	15	7	ND	4	26	1	3	2	33	1.69	.07	5	78	.61	386	.04	20	1.25	.05	.23	2
MS 421R	1	27	11	79	.7	4	10	848	4.29	20	2	ND	2	2	1	2	2	156	.03	.05	2	6	1.79	22	.01	2	3.21	.05	.02	2
MS 422R	2	22	16	109	.7	2	12	1000	4.36	21	2	ND	2	5	1	2	2	332	.09	.06	2	8	1.99	363	.01	2	3.11	.05	.01	2
MS 423R	1	20	9	67	.1	5	11	760	5.42	23	2	ND	2	2	1	2	3	229	.02	.03	2	11	1.69	18	.01	2	3.47	.04	.01	2
MS 424R	11	29	10	26	1.1	2	3	187	3.15	24	3	ND	2	3	1	2	4	68	.01	.01	2	11	.37	44	.01	2	1.39	.05	.21	2
MS 425R	1433	7	99	5	2.7	1	1	78	1.16	25	2	ND	2	3	1	6	3	67	.04	.02	2	38	.05	53	.01	2	.52	.01	.14	2
MS 426R	7	101	10	92	1.1	8	14	1079	4.09	9	2	ND	2	27	1	2	4	66	1.17	.07	13	19	1.02	111	.01	2	2.60	.02	.23	2
MS 427R	2	4	11	41	.5	3	4	831	1.93	22	6	ND	2	30	1	2	8	26	1.74	.10	35	12	.32	45	.01	4	1.82	.01	.46	2
MS 428R	7	8	150	75	1.0	4	4	1062	4.12	75	2	ND	2	7	1	2	11	37	.12	.12	19	17	.87	55	.01	4	2.23	.01	.40	2
MS 429R	10	80	212	154	1.3	6	6	518	2.62	72	3	ND	8	6	1	5	11	26	.22	.08	32	19	.56	60	.01	7	1.49	.01	.33	2
MS 430R	6	12	210	60	1.1	3	3	525	3.61	33	2	ND	2	6	1	2	9	38	.22	.08	9	28	.43	19	.01	2	1.18	.01	.24	2
MS 431R	10	77	3254	624	9.8	3	4	604	5.49	136	2	ND	2	6	1	7	11	43	.28	.19	19	5	.51	88	.01	2	1.74	.01	.42	3
MS 432R	1	55	93	265	.8	6	11	1069	3.37	14	2	ND	2	98	1	2	8	49	3.45	.17	28	7	1.29	83	.04	3	2.40	.03	.26	2
MS 433R	1	17	9	113	.6	8	8	1332	3.87	24	2	ND	2	45	1	2	9	30	2.32	.11	20	24	1.03	58	.01	2	2.54	.03	.31	2
MS 434R	2	11	19	119	1.4	7	8	1202	3.90	54	9	ND	2	16	1	9	5	29	.45	.10	26	14	.81	141	.01	2	2.50	.03	.32	2
MS 435R	1	13	12	62	.5	5	11	744	2.89	18	2	ND	2	189	1	2	4	45	4.03	.16	30	6	.96	2466	.01	2	2.38	.03	.41	2
MS 436R	1	9	12	37	1.0	3	5	1200	1.81	16	8	ND	2	204	1	2	2	28	14.51	.08	21	9	.55	271	.01	2	1.25	.02	.16	2
MS 437R	8	4	91	42	.5	2	3	324	2.86	89	2	ND	2	9	1	2	2	33	.20	.10	17	17	.24	62	.01	2	1.10	.05	.11	2
MS 438R	12	13	146	171	1.6	4	7	519	3.43	204	2	ND	2	8	1	2	2	36	.18	.09	18	23	.35	41	.01	2	1.63	.04	.11	2
MS 439R	1	5	27	12	.4	1	1	1340	1.12	12	2	ND	2	659	1	2	4	13	22.93	.01	24	7	.25	108	.01	2	.54	.01	.09	2
STD A-1	1	32	36	181	.4	35	12	1061	2.85	8	2	ND	2	34	1	2	3	58	.80	.10	6	81	.91	279	.09	7	2.54	.02	.20	2

VANGEOCHEM LAB LIMITED
1521 PEMBERTON AVENUE
NORTH VANCOUVER, B.C. V7P 2S3
ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS, VANCOUVER B.C. PH:253-3158 TELEX:04-53124

ICP GEOCHEMICAL ANALYSIS

A .500 GRAM SAMPLE IS DIGESTED WITH 3 ML OF 3:1:3 HCL TO HNO3 TO H2O AT 90 DEG.C. FOR 1 HOUR. THE SAMPLE IS DILUTED TO 10 MLS WITH WATER.
THIS LEACH IS PARTIAL FOR: Ca,P,Mg,Al,Ti,La,Na,K,W,Ba,Si,Sr,Cr AND B. Au DETECTION 3 ppm.
SAMPLE TYPE - SOLUTION

DATE RECEIVED SEPT 1982 DATE REPORTS MAILED Sept 29/82 ASSAYER DEAN TOYE, CERTIFIED B.C. ASSAYER

INVOICE # 7033

UNION CARBIDE PROJECT # SOLUTION FROM VANGEOCHEM JOB# 82-204 FILE # 82-1231 PAGE # 1

SAMPLE #	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm
MT 102R	3	13	18	45	.1	6	5	292	3.07	22	16	ND	3	62	1	2	2	14	1.77	.12	22	11	.12	249	.01	2	.43	.03	.12	2
MT 105R	1	46	12	62	.1	13	18	771	5.13	12	3	ND	2	86	2	2	2	104	4.80	.17	14	33	2.46	42	.01	2	2.70	.03	.11	2
MT 106R	5	4	11	51	.1	4	3	1092	1.89	7	2	ND	2	47	1	2	2	10	5.08	.02	15	11	.55	121	.01	2	.87	.06	.05	2
MT 107R	6	2	9	53	.1	1	1	454	1.39	26	2	ND	2	22	1	2	2	3	.82	.02	21	14	.24	265	.01	2	.55	.05	.12	2
MT 108R	1	3	8	13	.1	1	2	1815	3.64	37	7	ND	2	661	2	2	3	12	22.03	.01	2	4	3.04	170	.01	2	.13	.01	.01	2
MT 115R	5	339	10	19	.6	3	1	435	.74	8	2	ND	2	53	1	5	2	3	1.23	.01	2	67	.42	23	.01	2	.06	.01	.01	2
MT 116R	5	5	21	45	.3	2	3	58	2.28	63	2	ND	2	10	1	2	2	15	.17	.11	20	16	.03	71	.01	3	.28	.04	.11	2
MT 117R	4	6	21	51	.2	1	3	139	2.55	37	2	ND	2	15	1	2	2	22	.17	.12	22	9	.06	82	.01	4	.37	.05	.12	2
MT 120R	1	39	9	82	.1	15	18	904	4.48	17	3	ND	2	41	2	2	2	54	1.76	.15	19	15	1.91	127	.01	2	2.52	.03	.13	2
MT 121R	1	40	6	30	.2	3	3	928	1.10	14	2	ND	2	113	1	2	2	4	4.70	.03	26	10	.38	63	.01	2	.76	.02	.15	2
MT 122R	1	4	7	20	.1	1	1	248	.78	18	2	ND	2	29	1	2	2	3	1.21	.03	30	10	.51	56	.01	2	.74	.03	.18	2
MT 123R	10	8	9	7	.7	2	1	27	1.66	1897	2	ND	2	9	1	31	2	8	.06	.08	7	15	.05	102	.01	2	.35	.01	.21	2
MT 124R	322	12	15	23	9.0	7	6	144	1.78	127	2	ND	2	4	1	7	2	19	.06	.03	4	83	.35	30	.01	2	.51	.01	.04	2
MT 125R	48	5	9	7	1.0	2	1	75	1.78	262	3	ND	2	3	1	2	2	20	.03	.03	2	33	.15	35	.01	2	.39	.01	.10	2
MT 126R	16	4	12	28	.3	2	1	124	.89	69	2	ND	2	6	1	2	2	4	.10	.02	19	14	.33	36	.01	2	.62	.04	.11	2
MT 127R	1	50	11	74	.1	7	14	1677	4.09	7	2	ND	2	129	2	2	2	85	6.59	.09	7	12	1.77	208	.01	2	.52	.04	.23	2
MT 128R	1	202	8	51	.2	10	11	767	3.24	14	6	ND	2	132	1	2	2	103	2.22	.06	3	34	.79	657	.01	2	1.53	.03	.06	2
MT 129R	4	13	19	587	.1	5	5	696	2.03	21	2	ND	2	18	1	2	2	12	.30	.03	29	15	.04	61	.01	3	.42	.06	.05	2
STD A-1	1	31	39	190	.2	33	12	1008	2.73	12	2	ND	2	39	2	2	2	60	.64	.11	9	85	.88	294	.09	8	1.89	.02	.19	2

APPENDIX 3

SOIL GEOCHEMISTRY - ANALYTICAL DATA

VGC
VANGEOCHEM LAB LTD.
1521 PEMBERTON AVE.,
NORTH VANCOUVER, B.C.,
CANADA V7P 2S3
TELEPHONE: 986-5211
AREA CODE: 604

• *Specialising in Trace Elements Analyses* •

Certificate of Geochemical Analyses

–IN ACCOUNT WITH–
Union Carbide Exploration
Suite 930, 800 W. Pender St.
Vancouver, B.C. V6C 2V6
Attention:

Report No: 82-93-012 Page 1 of 2
Samples Arrived: July 17, 1982
Report Completed: July 27, 1982
For Project: 107
Analyst: E.T. & VGC Staff
Invoice: 6841 Job # 82-093

CUMMINS CREEK SOIL GRID

Sample Marking	Hg ppb	Au ppb				
WT 0 + 00 S	35	30				
0 + 25NS	30	30				
50	35	25				
75	40	25				
100	30	30				
25	30	10				
50	35	10				
75	20	5				
200	25	35				
25	30	10				
50	25	25				
75	25	30				
300	35	30				
25	40	15				
50	25	nd				
75	35	nd				
400	35	5				
25	15	30				
50	25	20				
75	40	20				
500	40	5				
25	45	nd				
50	35	10				
0 + 575NS	20	20				
0 + 25SS	40	5				
50	70	25				
75	30	10				
100	30	nd				
25	45	5				
50	25	25				
75	20	30				
200	45	30				
25	60	15				
50	30	nd				
75	25	nd				
300	45	5				
25	30	nd				
50	20	nd				
WT 0 + 375SS	40	nd				

REMARKS:
One copy sent to Mr. N. Cawthorn at Houston, B.C.

Signed:

% Mo x 1.6683 = % MoS_2 1 Troy oz./ton = 34.28 ppm 1 ppm = 0.0001% nd = none detected ppm = parts per million

All values are believed to be correct to the best knowledge of the analyst based on the method and instruments used.

VGC
VANGEOCHEM LAB LTD.
1521 PEMBERTON AVE.,
NORTH VANCOUVER, B.C.,
CANADA V7P 2S3
TELEPHONE: 986-5211
AREA CODE: 604

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Union Carbide Exploration

Attention:

Report No: 82-93-012 Page 2 of 2
Samples Arrived:
Report Completed:
For Project:
Analyst:

Sample Marking	Hg ppb	Au ppb				
WT 0 + 400SS	40	nd				CUMMINS CREEK SOIL GRID

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-IN ACCOUNT WITH-
Union Carbide Exploration
Suite 930 - 800 W. Pender St.
Vancouver, B.C. V6C 2V6
Attention:

Report No: 82 - 93 - 014 Page 1 of 5
Samples Arrived: July 19, 1982
Report Completed:
For Project: #107 Wind Tunnel - Cummins Ck Soil Grid
Analyst: VGC Staff
Invoice# 6868 Job# 82 - 097

Sample Marking	Au ppb	Hg ppb
W1. 0+25Es	nd	60
50	nd	30
075	10	40
100	nd	30
0+125Es	nd	35
0+25Ws	10	30
50	5	20
075	nd	35
100	nd	140
125	nd	130
150	nd	35
175	10	65
0+200Ws	nd	60
100N+25Es	nd	25
50	nd	30
075	15	40
100	nd	30
125	nd	35
150	nd	110
175	10	65
100N+200Es	nd	30
100N+25Ws	nd	25
50	nd	80
075	10	35
100	10	35
125	nd	45
150	nd	25
175	nd	30
200	80 ✓	1950
225	10	140
100N+250Ws	nd	30
100S+50Es	15	35
075	nd	35
100	5	25
200	nd	35
225	nd	30
250	10	40
100S+275Es	nd	100
100S+25Ws	10	60

CUMMINS CREEK SOIL GRID

REMARKS:
ICP will follow at a later date.
One copy sent to N. Cawthorn, Houston, B.C.

Signed:

% Mo x 1.6683 = % MoS_2 1 Troy oz./ton = 34.28 ppm 1 ppm = 0.0001% nd = none detected ppm = parts per million

VGC
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CANADA V7P 2S3
TELEPHONE: 986-5211
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Union Carbide Exploration

Attention:

Report No: 82 - 93 - 014 Page 2 of 5
Samples Arrived:
Report Completed:
For Project:
Analyst:

CUMMINS CREEK SOIL GRID

Sample Marking	Au ppb	Hg ppb				
100S+50Ws	nd	50				
100S+75Ws	nd	40				
200N+25Es	nd	20				
50	nd	195				
075	nd	25				
100	nd	50				
125	5	65				
150	nd	35				
175	nd	30				
200	5	35				
200N+225Es	nd	40				
200N+25Ws	nd	25				
50	nd	30				
075	5	30				
100	nd	40				
125	5	25				
150	nd	35				
175	nd	30				
200	5	50				
225	nd	50				
200N+250Ws	nd	35				
200S+25Es	5	25				
50	nd	40				
075	20	5				
100	10	20				
125	nd	30				
150	10	115				
175	nd	30				
200	nd	35				
200S+225Es	nd	25				
200S+25Ws	nd	75				
50	nd	75				
075	nd	65				
100	nd	35				
125	nd	20				
200S+150Ws	10	30				
300N+25Es	nd	35				
50	nd	30				
075	nd	25				
300N+100Es	nd	20				

REMARKS:

Signed:

% Mo x 1.6683 = % MoS_2 1 Troy oz./ton = 34.28 ppm 1 ppm = 0.0001% nd = none detected ppm = parts per million

All values are believed to be correct to the best knowledge of the analyst based on the method and instruments used.

VGC

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NORTH VANCOUVER, B.C.,
CANADA V7P 2S3

TELEPHONE: 986-5211
AREA CODE: 604

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–IN ACCOUNT WITH–

Union Carbide Exploration

Attention:

Report No: 82 - 93 - 014 Page 3 of 5
Samples Arrived:
Report Completed:
For Project:
Analyst:

Sample Marking	Au ppb	Hg ppb				
300N+125Es	nd	40				
150	10	20				
175	nd	115				
200	dn	50				
300N+225Es	nd	30				
300N+25Ws	nd	45				
50	nd	55				
075	10	40				
100	nd	35				
125	nd	75				
150	nd	45				
175	nd	50				
200	10	30				
225	10	35				
300N+250Ws	10	45				
300S+25Es	nd	60				
50	10	40				
075	nd	30				
100	nd	35				
125	10	30				
150	nd	25				
175	nd	30				
200	nd	45				
225	nd	35				
300S+250Es	nd	40				
300S+25Ws	nd	155				
50	10	70				
075	nd	70				
100	nd	40				
125	nd	25				
150	5	65				
300S+175Ws	5	50				
400N+25Es	nd	125				
50	10	30				
075	nd	45				
100	10	40				
125	nd	30				
150	5	55				
400N+175Es	nd	30				

CUMINS CREEK SOIL GRID

REMARKS:

Signed:

% Mo x 1.6683 = % MoS_2 1 Troy oz./ton = 34.28 ppm 1 ppm = 0.0001% nd = none detected ppm = parts per million

VGC

VANGEOCHEM LAB LTD.
1521 PEMBERTON AVE.,
NORTH VANCOUVER, B.C.,
CANADA V7P 2S3

TELEPHONE: 986-5211
AREA CODE: 604

Specialising in Trace Elements Analyses

Certificate of Geochemical Analyses

-IN ACCOUNT WITH-

Union Carbide Exploraiton

Attention:

Report No: **82 - 93 - 014** Page **4** of **5**
Samples Arrived:
Report Completed:
For Project:
Analyst:

CUMMINS CREEK SOIL GRID

Sample Marking	Au ppb	Hg ppb				
400N+200Es	10	25				
225	nd	35				
400N+250Es	10	50				
400N+25Ws	nd	50				
50	nd	35				
075	10	25				
100	10	25				
125	nd	40				
150	nd	40				
175	nd	35				
400N+200Ws	nd	30				
400S+25Es	5	30				
50	10	15				
075	nd ✓	40				
100	nd	25				
125	nd	35				
150	nd	35				
175	5 ✓	20				
200	nd	25				
225	nd	40				
400S+250Es	nd	35				
400S+25Ws	10	20				
501	10	45				
075	10	35				
100	10	50				
125	10	35				
150	5	10				
175	nd	30				
400S+200Ws	10	nd				
500N+25Es	nd	15				
50	nd	25				
075 075	nd	25				
100	nd	50				
125	10	20				
150	10	25				
175	nd	20				
200	nd	15				
225	nd	30				
500N+250Es	nd ✓	25 ✓				

REMARKS:

Signed:

% Mo x 1.6683 = % MoS_2 1 Troy oz./ton = 34.28 ppm 1 ppm = 0.0001% nd = none detected ppm = parts per million

All values are believed ...

VGC

VANGEOCHEM LAB LTD
1521 PEMBERTON AVE.,
NORTH VANCOUVER, B.C.,
CANADA V7P 2S3

TELEPHONE: 986-5211
AREA CODE: 604

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Specialising in Trace Elements Analyses

IN ACCOUNT WITH—

Union Carbide Exploration

Report No. 82 - 93 - 011 Page 5 of 5

Samples submitted.
Report Completed.
For Project:
Analysis:

Sample Marking	Au ppb	Hg ppb
500N+25Ws	10	60
50	10	40
075	nd	35
100	10	25
125	nd	30
150	nd	45
175	nd	10
500N-200Ws	10	10

CUMMINS CREEK SOIL GRID

MASTER

1 Tr... = 34.28... 1 ppm = 0.0001...

...believed to be correct to ... ledge of the analyst... or

VGC
VANGEOCHEM LAB LTD.
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CANADA V7P 2S3
TELEPHONE: 986-5211
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–IN ACCOUNT WITH–
Union Carbide Exploration
Suite 930 - 800 W. Pender St.
Vancouver, B.C. V6C 2V6
Attention:

Report No: **82-93-028** Page **1** of **2**
Samples Arrived: **August 13, 1982**
Report Completed: **August 26, 1982**
For Project: **107** Job No. **82-151**
Analyst: **VGC Staff** Invoice No. **6926**

Discovery Soil Grid

Sample Marking	Hg ppm	Au ppb
TA 23 S	60	nd
24	60	nd
25	35	nd
26	45	20
27	45	nd
28	45	nd
29	50	nd
30	25	nd
31	25	nd
32	25	20
33	30	10
34	45	10
35	25	10
36	25	10
37	20	20
38	35	20
39	30	nd
40	35	30
41	35	30
42	15	10
43	80	10
44	55	15
45	50	15
46	60	nd
47	20	10
48	45	10
49	25	20
50	30	nd
51	25	nd
52	50	15
53	40	20
54	35	nd
55	25	nd
56	30	nd
67	70	nd
68	20	nd
69	45	nd
70	40	20
TA 71 S	45	nd

REMARKS:

One copy sent to Houston, B.C.

% Mo x 1.6683 = % MoS_2 1 Troy oz./ton = 34.28 ppm

All values are believed to be correct to the best knowle

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VANGEOCHEM LAB LTD.
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NORTH VANCOUVER, B.C.,
CANADA V7P 2S3
TELEPHONE: 986-5211
AREA CODE: 604

Certificate of Geochemical Analyses

Specialising in Trace Elements Analyses

-IN ACCOUNT WITH-
Union Carbide Exploration

Attention:

Report No: 82-93-028 Page 2 of 2
Samples Arrived:
Report Completed:
For Project: Job No.
Analyst: Invoice No.

DISCOVERY SOIL GRID

Sample Marking	Hg ppm	Au ppb
TA 72' S	35	10
73	90	10
74	55	nd
75	70	10
76	50	nd
77	35	nd
78	50	nd
79	25	20
80	25	10
81	25	10
82	25	10
83	25	10
84	35	nd
85	25	nd
86	30	nd
87	25	10
88	25	nd
89	30	nd
90	20	nd
91	15	nd
92	20	nd
93	25	nd
94	15	nd
95	20	nd
96	15	nd
97	25	nd
98	15	nd
99	15	nd
100	15	nd
01	10	nd
TA 102 S	15	nd

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Union Carbide Exploration Inc.
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Vancouver, B.C. V6C 2V6
Attention:

Report No: 82-93-038 Page 1 of 2
Samples Arrived: August 30, 1982
Report Completed: Sept. 7, 1982
For Project: 107 Job No. 82-172
Analyst: VGC Staff Invoice No. 6953

MORAINE SOIL GRID

Sample Marking	Ag ppm	Au ppb
SP 100 S	0.4	20
01	0.5	25
02	0.4	20
03	0.2	nd
04	0.1	30
05	0.2	nd
06	0.2	nd
07	0.7	20
08	0.1	5
09	nd	10
10	0.1	20
SP 111	nd	15
MS 100	1.0	15
01	2.0	20
02	4.1	35
03	2.0	5
04	1.2	nd
05	2.1	10
06	2.0	25
07	1.8	20
08	7.2	40
09	2.1	10
10	2.4	15
11	1.0	5
12	1.4	20
13	1.8	20
14	0.7	20
15	6.1	20
16	6.1	60
17	0.1	35
18	0.[illegible]	10
19	[illegible]	20
20	2.4	60
21	1.6	35
22	1.[illegible]	40
23	2.[illegible]	60
24	3.1	40
25	3.4	nd
MS 00 S	2.0	5

REMARKS

Signed:

% Mo x 1.[illegible] % MoS_2 1 Troy [illegible]tion = 34.28 ppm 1 ppm = 0.029[illegible] [illegible]none detected

All values are believed [illegible] correct [illegible] the best [illegible] [illegible] of the [illegible] [illegible] [illegible] throughout

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Attention:

Report No: **82-93-038** Page **2** of **2**
Samples Arrived:
Report Completed:
For Project:
Analyst:

Job No.
Invoice No.

Sample Marking	Ag ppm	Au ppb				
WS 201 S	2.8	45				MORAINE SOIL GRID
02	1.7	30				
03	1.4	10				
04	1.7	20				
05	2.5	15				
06	2.0	15				
07	0.9	20				
08	1.2	70				
09	1.8	15				
10	1.5	15				
11	2.8	75				
12	1.0	35				
13	3.3	40				
WS 214 S	2.5	50				

REMARKS:

Signed:

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Union Carbide Exploration Inc.
930, 800 W. Pender ST.
Vancouver, B.C. V6C 2V6
Attention:

Report No: 82-93-058 Page 1 of 4
Samples Arrived: Sept. 13, 1982
Report Completed: Sept. 28, 1982
For Project: 107 Job No. 82-214
Analyst: VGC Staff Invoice No. 7025

Sample Marking	Au ppb	Ag ppm	Hg ppb			
W.S. 215S	70	5.8	—			
216	40	2.6	—			
217	40	2.2	—			
218	15	0.9	—			
219	nd	0.3	—			
220	nd	0.4	—			
221	5	1.0	—			
222	nd	0.2	—			
223	nd	1.6	—			
224	20	2.9	—			
225	45	7.0	—			
226	45	4.5	—			
227	60	1.6	—			
228	25	0.9	—			
W.S. 229S	20	0.6	—			

SEP 30 1982

MORAINE SOIL GRID

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Union Carbide Exploration Inc.

Attention:

Report No: 82-93-058 Page 2 of 4
Samples Arrived:
Report Completed:
For Project: Job No.
Analyst: Invoice No.

Sample Marking	Au ppb	Ag ppm				
S.P 1125	15	nd				
113	30	0.8				MORAINE SOIL GRID
114	5	0.7				
115	20	0.1				
116	nd	0.2				
117	15	0.1				
118	15	0.7				
119	10	0.3				
120	nd	nd				
121	nd	0.1				
122	15	0.6				
123	5	0.1				
124	nd	0.2				
125	15	0.1				
126	10	0.2				
127	5	0.1				
128	35	nd				
129	5	0.2				
130	10	nd				
131	10	0.7				
132	nd	0.1				
133	10	0.3				
134	15	0.5				
135	5	nd				
136	10	0.2				
137	10	0.3				
138	10	0.4				
139	10	0.4				
140	5	1.0				
141	5	0.5				
142	nd	0.5				
143	nd	0.2				
144	20	0.3				
145	15	0.2				
S.P 146S	nd	0.2				

REMARKS:

Signed: _____

% Mo x 1.6683 = % MoS_2 1 Troy oz./ton = 34.28 ppm 1 ppm = 0.0001% nd = none detected ppm = parts per million

All values are believed to be correct to the best knowledge of the analyst based on the method and instruments used.

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Attention:

Report No: 82-93-058 Page 3 of 4
Samples Arrived:
Report Completed:
For Project: Job No.
Analyst: Invoice No.

Sample Marking	Au ppb	Ag ppm				
S.P 147S	15	0.4				MOUNTAINE SOIL GRID
148	5	0.4				
149	5	0.2				
150	nd	0.1				
151	5	0.4				
152	20	nd				
153	15	0.1				
154	nd	nd				
155	15	0.5				
156	20	0.4				
157	5	0.4				
158	10	0.7				
159	10	0.4				
160	10	0.7				
161	10	0.4				
162	nd	0.6				
163	nd	0.3				
164	5	0.4				
165	nd	0.2				
166	nd	0.3				
167	5	0.2				
168	nd	0.1				
169	nd	0.5				
170	nd	0.5				
171	5	0.3				
172	20	2.3				
173	15	0.8				
174	nd	0.2				
175	nd	0.2				
176	nd	0.2				
177	nd	0.2				
178	nd	nd				
179	nd	nd				
180	20	0.1				
181	nd	0.4				
182	nd	1.0				
183	nd	0.4				
184	nd	0.2				
S.P 185S	55	0.3				

REMARKS:

Signed:

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Attention:

Report No: **82-93-058** Page **4** of **4**
Samples Arrived:
Report Completed:
For Project: Job No.
Analyst: Invoice No.

Sample Marking	Au ppb	Ag ppm				
S.P 186S	nd	0.4				MOV NE SOIL SOLID
187	20	0.1				
188	10	0.5				
189	nd	0.3				
190	nd	0.4				
191	nd	0.2				
192	nd	0.3				
193	15	0.2				
194	nd	0.2				
195	nd	0.1				
196	5	0.2				
197	nd	0.4				
198	nd	0.3				
199	nd	0.4				
200	5	0.5				
201	15	0.5				
202	35	3.7				
203	10	0.5				
204	nd	0.2				
S.P 205	5	0.1				

REMARKS:

Signed:

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930, 900 W. Pender St.
Vancouver, B.C. V6C 2V6
Attention:

Report No: 82-93-059 Page 1 of 3
Samples Arrived: Sept. 13, 1982
Report Completed: Sept. 30, 1982
For Project: 107 Job No. 82-215
Analyst: VGC Staff Invoice No. 7030

Sample Marking	Au ppb	Hg ppb				
WT - 1005	nd	35				
101	nd	15				
102	nd	10				
103	nd	10				
104	80	15				
105	nd	15				
106	nd	10				
107	nd	20				
108	nd	65				
109	nd	45				
110	nd	110				
111	nd	20				
112	nd	20				
113	nd	10				
114	nd	15				
115	nd	15				
116	nd	10				
117	10	20				
118	nd	15				
119	nd	15				
120	nd	20				
121	nd	10				
122	nd	15				
123	nd	15				
124	nd	145				
125	10	20				
126	nd	15				
127	nd	10				
128	10	30				
129	nd	40				
130	nd	15				
131	nd	40				
132	nd	10				
133	nd	10				
134	nd	10				
135	nd	1400				
136	nd	70				
137	nd	85				
WT - 1385	nd	40				

SURFICIAL SOIL GRID

REMARKS:

Signed:

% Mo x 1.6683 = % MoS_2 1 Troy oz./ton = 34.28 ppm 1 ppm = 0.0001% nd = none detected ppm = parts per million

All values are believed to be correct to the best knowledge of the analyses based on the sample received.

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Attention:

Report No: **82-93-059** Page **2** of **3**
Samples Arrived:
Report Completed:
For Project: Job No.
Analyst: Invoice No.

Sample Marking	Au ppb	Hg ppb				
WT - 139S	5	45				
140	nd	250				
141	nd	20				
142	nd	25				
143	nd	400				
144	nd	145				
145	nd	40				
146	nd	550				
147	nd	5				
148	5	45				
149	nd	25				
150	nd	180				
151	nd	900				
152	nd	45				
153	5	30				
154	nd	210				
155	nd	5				
156	nd	10				
157	nd	10				
158	nd	15				
159	nd	10				
160	nd	25				
161	nd	25				
162	nd	40				
163	5	30				
164	nd	75				
165	nd	40				
166	nd	45				
167	nd	15				
168	nd	70				
169	nd	15				
170	nd	10				
171	nd	75				
172	nd	5				
173	25	10				
174	nd	25				
175	nd	10				
176	nd	10				
WT - 177S	nd	60				

SURFACE SOIL GRID

REMARKS:

Signed:

% Mo x 1.6683 = % MoS_2 1 Troy oz./ton = 34.28 ppm 1 ppm = 0.0001% nd = none detected ppm = parts per million

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Attention:

Report No: 82-93-059 Page 3 of 3
Samples Arrived:
Report Completed:
For Project: Job No.
Analyst: Invoice No.

Sample Marking	Au ppb	Hg ppb				
MT - 178S	nd	20				
179	nd	30				
180	nd	30				
181	nd	10				
182	nd	20				
183	nd	15				
184	nd	50				
185	nd	10				
186	nd	75				
187	nd	100				
188	5	25				
189	nd	25				
190	nd	30				
191	nd	5				
192	nd	20				
193	nd	15				
194	nd	10				
195	nd	70				
196	nd	50				
197	nd	80				
198	5	70				
199	nd	55				
200	nd	35				
201	nd	25				
MT - 202SS	nd	30				

SURFACE SOIL GRID

REMARKS:

Signed:

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ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS, VANCOUVER B.C. PH:253-3158 TELEX:04-53124

ICP GEOCHEMICAL ANALYSIS

A .500 GRAM SAMPLE IS DIGESTED WITH 3 ML OF 3:1:3 HCL TO HNO3 TO H2O AT 90 DEG.C. FOR 1 HOUR. THE SAMPLE IS DILUTED TO 10 MLS WITH WATER.
THIS LEACH IS PARTIAL FOR: Ca,P,Mg,Al,Ti,La,Na,K,W,Ba,Si,Sr,Cr AND B. Au DETECTION 3 ppb.
SAMPLE TYPE - SOLUTION

DATE RECEIVED AUG 3 1982 DATE REPORTS MAILED Aug 4/82 ASSAYER D. Toye DEAN TOYE, CERTIFIED B.C. ASSAYER

UNION CARBIDE PROJECT # 107 SOLUTION FROM VANGEOCHEM FILE # 82-0743 PAGE # 1

SAMPLE #	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppb	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm
MT 0+00 S	1	49	9	55	.1	11	12	893	2.79	7	2	ND	2	51	1	2	2	48	.55	.12	10	6	.68	150	.01	13	2.12	.02	.08	2
MT 0+25NS	1	46	5	57	.2	11	12	789	2.79	5	2	ND	2	80	1	2	2	54	.88	.11	12	7	.78	194	.01	18	2.06	.03	.13	2
MT 0+50NS	1	50	5	64	.1	12	13	441	2.88	5	2	ND	2	98	1	2	2	57	1.10	.10	9	6	.88	231	.01	16	2.25	.03	.11	2
MT 0+100NS	1	51	4	54	.1	11	13	918	2.77	7	2	ND	2	106	1	2	2	56	1.13	.09	11	7	.82	184	.02	19	2.10	.04	.10	2
MT 0+125NS	1	49	6	66	.1	12	15	1363	3.32	8	2	ND	2	19	1	2	2	66	.11	.14	6	9	.73	139	.01	10	2.69	.01	.06	2
MT 0+150NS	1	42	13	71	.1	11	13	1311	2.93	13	2	ND	2	37	1	2	2	53	.34	.13	9	6	.69	171	.01	13	2.18	.02	.08	2
MT 0+175NS	1	25	23	91	.1	7	9	821	2.41	7	2	ND	2	38	1	2	2	35	.58	.14	18	3	.48	234	.01	14	1.15	.02	.08	2
MT 0+200NS	1	30	22	109	.1	9	12	1112	2.83	9	2	ND	2	48	1	2	2	43	.69	.12	14	3	.65	291	.01	20	1.06	.02	.07	2
MT 0+225NS	1	40	11	61	.1	13	14	1530	2.86	18	2	ND	2	47	1	2	2	47	.51	.11	13	7	.75	193	.01	17	1.77	.02	.07	2
MT 0+250NS	1	67	13	74	.1	9	12	1308	3.12	6	2	ND	2	26	1	2	2	50	.38	.17	11	5	.79	267	.01	18	1.85	.01	.06	2
MT 0+275NS	1	45	8	77	.1	12	12	1154	2.89	5	2	ND	2	21	1	2	2	55	.20	.16	11	5	.68	140	.02	17	2.25	.02	.06	2
MT 0+300NS	1	54	20	51	.1	11	9	795	2.81	3	2	ND	2	20	1	2	2	55	.19	.13	17	11	.69	148	.01	13	2.69	.02	.05	2
MT 0+325NS	1	38	8	57	.1	10	10	720	3.47	5	2	ND	2	13	1	2	2	63	.10	.16	10	13	.69	80	.01	14	2.52	.01	.05	2
MT 0+350NS	1	19	5	53	.2	7	7	592	2.21	4	2	ND	2	31	1	2	2	46	.27	.17	15	7	.44	193	.01	14	1.82	.02	.07	2
MT 0+375NS	1	24	6	62	.1	8	11	944	2.84	3	2	ND	2	33	1	2	2	55	.23	.15	19	10	.56	175	.02	15	2.27	.02	.05	2
MT 0+400NS	1	18	5	67	.1	9	10	341	2.65	3	2	ND	2	12	1	2	2	44	.09	.12	10	9	.53	116	.01	18	3.36	.01	.05	2
MT 0+425NS	1	32	5	61	.1	22	16	1121	3.35	5	2	ND	2	23	1	2	2	49	.32	.10	11	12	1.30	154	.01	16	2.13	.02	.06	2
MT 0+450NS	1	54	7	64	.1	14	14	688	2.76	5	2	ND	2	40	1	2	2	44	.68	.10	16	6	.79	215	.01	19	1.64	.03	.11	2
MT 0+475NS	1	23	6	80	.3	10	11	1205	2.96	8	2	ND	2	10	1	2	2	50	.04	.10	5	8	.56	98	.01	16	2.37	.01	.05	2
MT 0+500NS	1	40	10	67	.1	12	12	1087	3.27	7	2	ND	2	36	1	2	2	53	.37	.12	12	7	.67	177	.01	16	2.42	.02	.07	2
MT 0+525NS	1	14	5	57	.2	7	5	361	2.41	2	2	ND	2	9	1	2	2	42	.06	.09	6	10	.37	94	.02	21	2.88	.01	.05	2
MT 0+550NS	1	29	6	55	.1	9	10	499	2.53	3	2	ND	3	9	1	2	2	42	.10	.12	11	6	.53	97	.01	17	3.05	.01	.06	2
MT 0+575NS	1	52	5	38	.1	15	18	3147	3.00	5	2	ND	2	39	1	2	2	49	.46	.06	18	5	.99	370	.01	9	1.99	.01	.08	2
MT 0+25SS	2	16	6	65	.1	3	5	1219	.91	17	2	ND	2	134	1	2	2	8	2.29	.15	4	4	.25	770	.01	32	.47	.01	.09	2
MT 0+50SS	9	21	21	42	.3	3	6	416	2.85	337	2	ND	2	76	1	2	2	11	.17	.07	11	4	.16	194	.01	17	.55	.03	.17	2
MT 0+75SS	1	28	9	77	.1	7	12	2197	2.90	16	2	ND	2	34	1	2	2	52	.26	.15	5	5	.46	248	.01	13	1.93	.02	.09	2
MT 0+100SS	1	35	9	57	.1	10	12	786	2.63	16	2	ND	2	37	1	2	2	43	.42	.14	9	5	.65	165	.01	16	2.07	.01	.09	2
MT 0+125SS	1	34	8	66	.1	10	10	467	3.23	7	2	ND	2	29	1	2	2	54	.33	.14	3	3	.66	159	.01	11	2.51	.01	.09	2
MT 0+150SS	3	49	12	66	.2	14	17	1167	3.46	73	2	ND	2	25	1	2	2	28	.31	.11	12	3	.82	147	.01	18	1.66	.01	.08	2
MT 175SS	8	47	14	67	.2	13	15	1066	3.70	107	2	ND	2	32	1	2	2	32	.22	.11	10	3	.66	154	.01	14	1.74	.01	.10	2
MT 0+200SS	2	31	10	72	.2	9	13	2074	2.78	45	2	ND	2	31	1	2	2	41	.29	.18	7	3	.43	288	.01	16	1.69	.01	.10	2
MT 0+225SS	1	36	8	62	.1	8	7	653	3.46	11	2	ND	2	31	1	2	2	60	.30	.36	2	5	.52	124	.01	15	2.28	.01	.07	2
MT 0+250SS	7	38	17	76	.1	17	16	1158	3.52	107	2	ND	2	20	1	2	2	31	.19	.12	10	6	.65	137	.01	15	1.61	.01	.07	2
MT 0+275SS	5	30	4	54	.2	20	12	349	3.51	9	2	ND	2	31	1	2	2	39	.44	.09	14	14	.75	232	.01	7	2.05	.01	.06	2
MT 0+300SS	1	23	9	72	.1	7	8	898	2.48	15	2	ND	2	28	1	2	2	51	.25	.07	4	4	.45	272	.01	11	1.51	.02	.05	2
MT 0+325SS	1	26	8	77	.2	12	15	2456	3.79	12	2	ND	2	18	1	2	2	62	.17	.26	2	15	.55	290	.01	14	1.79	.01	.11	2
MT 0+350SS	1	53	7	62	.1	12	15	1198	2.96	11	2	ND	2	60	1	2	2	53	.60	.09	12	6	.80	155	.01	16	1.88	.03	.06	2
MT 0+375SS	1	20	7	104	.1	6	7	406	3.82	10	2	ND	2	20	1	2	2	76	.13	.10	2	9	.58	121	.03	11	2.26	.02	.04	2
STD A-1	1	31	43	184	.3	35	13	733	2.74	9	2	ND	2	41	1	2	2	57	.64	.09	6	67	.76	314	.08	5	1.84	.02	.19	2

CUMMINS CREEK SOIL GRID

UNION CARBIDE PROJECT # 107 SOLUTION FROM VANGEOCHEM FILE # 82-0743 PAGE # 3

CUMMINS CREEK SOIL GRID

SAMPLE #	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm
WT 0+400SS	8	13	7	36	.4	8	5	167	3.19	68	2	ND	2	5	1	2	2	25	.06	.10	2	5	.21	106	.01	19	.59	.01	.16	2

VANGEOCHEM LAB LIMITED
1521 PEMBERTON AVENUE
NORTH VANCOUVER, B.C. V7P 2S3

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS, VANCOUVER B.C. PH:253-3158 TELEX:04-53124

ICP GEOCHEMICAL ANALYSIS

A .500 GRAM SAMPLE IS DIGESTED WITH 3 ML OF 3:1:3 HCL TO HNO3 TO H2O AT 90 DEG.C. FOR 1 HOUR. THE SAMPLE IS DILUTED TO 10 MLS WITH WATER.
THIS LEACH IS PARTIAL FOR: Ca,P,Mg,Al,Ti,La,Na,K,W,Ba,Si,Sr,Cr AND B. Au DETECTION 3 ppm.
SAMPLE TYPE - SOLUTION

DATE RECEIVED SEPT 1982 DATE REPORTS MAILED Sept 23/82 ASSAYER _____ DEAN TOYE, CERTIFIED B.C. ASSAYER

UNION CARBIDE PROJECT # SOLUTION FROM VANGEOCHEM JOB# 82-097 FILE # 82-1198 ICA # 7023 PAGE # 1

CUMMINS CREEK SOIL GRID

SAMPLE #	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm
0+25ES	1	44	15	68	.1	11	11	1016	3.14	13	2	ND	2	33	1	2	2	58	.27	.12	17	10	.44	187	.02	3	3.29	.01	.11	2
0+50ES	1	56	10	61	.1	12	14	1306	3.15	8	2	ND	2	63	1	2	2	60	.56	.09	15	10	.76	223	.03	4	2.75	.01	.13	2
0+75ES	1	46	14	81	.1	10	13	2009	3.07	22	2	ND	2	28	1	2	2	58	.25	.16	17	10	.54	160	.01	4	2.67	.01	.11	2
0+100ES	1	30	13	86	.1	7	13	1889	3.24	10	2	ND	2	21	1	2	2	61	.16	.16	6	9	.44	233	.02	4	2.13	.01	.15	2
0+125ES	1	174	12	71	.2	11	11	1255	3.34	163	2	ND	2	45	1	2	2	68	.65	.17	37	14	.85	200	.01	3	3.09	.01	.11	2
0+25WS	1	33	26	115	.1	11	12	1116	3.22	9	2	ND	2	38	1	2	2	65	.48	.11	16	18	.64	146	.04	5	1.53	.02	.11	2
0+50WS	1	35	11	64	.1	12	11	890	2.85	6	2	ND	2	65	1	2	2	58	.51	.08	19	12	.70	200	.02	6	2.57	.02	.10	2
0+075WS	1	26	11	66	.1	10	9	477	2.89	7	2	ND	2	27	1	2	2	61	.24	.14	7	9	.63	109	.02	4	2.73	.01	.18	2
0+100WS	2	27	11	84	.1	45	8	641	2.95	11	2	ND	2	21	1	2	2	55	.16	.14	6	39	.64	90	.01	5	2.58	.01	.08	2
0+125WS	2	22	12	51	.1	8	5	356	2.36	12	2	ND	2	20	1	2	2	45	.15	.10	5	11	.44	107	.01	3	2.60	.01	.05	2
0+150WS	6	18	9	58	.1	9	6	475	3.01	37	2	ND	2	33	1	2	2	58	.49	.12	4	18	.59	137	.02	4	1.91	.01	.10	2
0+175WS	2	23	9	41	.1	8	7	981	4.07	28	2	ND	2	36	1	2	2	84	.47	.20	6	16	.44	118	.02	5	1.99	.01	.09	2
0+200WS	3	25	13	65	.1	12	14	765	4.76	28	2	ND	2	22	1	2	2	72	.21	.12	5	25	.58	114	.02	4	2.55	.01	.07	2
100N+25ES	1	43	8	75	.1	11	13	1321	3.04	6	2	ND	2	55	1	2	2	61	.60	.16	10	10	.79	155	.02	6	2.35	.02	.19	2
100N+50ES	1	53	9	62	.1	11	13	1183	3.11	8	2	ND	2	75	1	2	2	63	.84	.11	15	8	.82	181	.03	9	2.20	.03	.15	2
100N+075ES	1	49	11	62	.1	12	13	1010	3.09	7	2	ND	2	74	1	2	2	61	.76	.09	15	11	.83	203	.02	6	2.47	.03	.16	2
100N+100ES	1	32	7	57	.1	9	8	396	2.56	9	2	ND	2	71	1	2	2	54	.78	.11	14	13	.73	181	.01	6	2.34	.03	.16	2
100N+125ES	1	46	12	74	.1	11	13	1257	3.05	7	2	ND	2	56	1	2	2	62	.54	.15	13	11	.75	179	.02	5	2.92	.02	.17	2
100N+150ES	1	37	11	67	.1	11	8	625	4.05	8	2	ND	2	28	1	2	2	73	.29	.26	6	28	.51	165	.03	5	2.32	.01	.13	2
100N+175ES	1	168	11	64	.1	24	13	2058	2.96	7	2	ND	2	59	1	2	2	56	1.17	.21	15	59	.83	290	.01	5	2.42	.01	.13	2
STD A-1	1	36	43	197	.1	37	14	1116	2.97	9	2	ND	2	43	1	2	2	60	.65	.10	8	77	.84	337	.09	8	2.16	.02	.23	2
VANGEO STD	19	153	36	76	2.1	527	12	531	2.45	12	2	ND	3	33	1	2	2	31	1.45	.08	5	62	.57	426	.03	23	.94	.05	.22	2
100N+200ES	1	92	11	78	.1	163	20	2930	4.13	4	2	ND	2	17	1	2	2	69	.12	.23	5	133	1.08	170	.01	4	2.98	.01	.12	2
100N+25WS	1	35	25	113	.1	29	12	1195	3.00	10	2	ND	2	49	1	2	2	46	.57	.15	19	96	.67	232	.01	6	1.46	.02	.12	2
100N+50WS	1	24	13	63	.1	11	7	531	2.70	9	2	ND	2	19	1	2	2	49	.15	.17	11	24	.48	124	.02	6	2.87	.01	.09	2
100N+075WS	1	25	10	60	.1	8	8	500	3.99	6	2	ND	2	27	1	2	2	76	.09	.17	4	11	.55	115	.02	5	3.07	.01	.10	2
100N+100WS	1	38	12	71	.1	15	10	731	2.80	6	2	ND	2	46	1	2	2	57	.34	.14	10	24	.67	167	.01	3	3.18	.02	.13	2
100N+125WS	3	44	13	71	.1	17	11	890	3.14	15	2	ND	2	35	1	2	2	60	.35	.13	14	26	.80	122	.01	4	2.86	.02	.07	2
100N+150WS	3	33	14	89	.1	15	11	856	3.11	11	2	ND	2	48	1	2	2	60	.47	.12	11	32	.87	119	.02	5	2.64	.02	.14	2
100N+175WS	3	53	18	89	.1	43	17	1619	4.26	35	2	ND	2	16	1	2	2	72	.09	.18	9	104	1.03	82	.02	5	3.30	.01	.11	2
100N+200WS	280	27	36	90	.4	100	14	868	5.66	417	2	ND	2	209	1	2	2	47	.04	.15	10	295	.21	61	.01	5	1.02	.01	.13	2
100N+225WS	9	56	17	88	.1	35	22	1377	5.24	170	2	ND	2	33	1	2	2	63	.15	.13	17	59	.83	136	.01	4	2.48	.01	.11	2
100N+250WS	4	28	9	61	.1	13	8	215	2.32	37	2	ND	2	14	1	2	2	49	.13	.11	10	22	.78	108	.01	2	2.79	.01	.09	2
100S+50ES	7	113	30	96	.1	18	27	2388	5.31	176	2	ND	2	65	1	2	2	39	.38	.13	22	10	.80	180	.01	7	2.01	.02	.18	2
100S+075ES	1	58	21	85	.1	16	16	2089	4.25	81	2	ND	2	34	1	2	2	64	.31	.14	16	23	.78	235	.02	5	3.31	.01	.13	2
100S+100ES	1	40	25	86	.1	17	15	2045	3.87	41	2	ND	2	47	1	2	2	40	.53	.15	30	36	.86	863	.01	4	2.34	.01	.17	2
100S+200ES	1	52	14	74	.1	93	13	761	3.46	16	2	ND	2	16	1	2	2	46	.14	.09	8	291	.49	213	.01	3	2.93	.01	.14	2
100S+225ES	1	86	12	72	.1	257	17	2333	3.85	10	2	ND	2	23	1	2	2	58	.40	.12	14	401	.59	351	.01	3	3.29	.01	.15	2
100S+250ES	1	121	15	72	.1	88	13	1828	3.10	8	2	ND	2	27	1	2	2	53	.44	.16	14	307	.83	318	.01	4	3.36	.01	.16	2
100S+275ES	3	23	13	105	.1	95	13	3454	4.45	11	2	ND	2	23	1	2	2	22	.47	.16	27	413	.40	1273	.01	5	1.37	.01	.15	2
100S+25WS	3	29	15	64	.1	120	8	476	3.82	13	2	ND	2	22	1	2	2	74	.16	.13	8	462	.47	114	.03	7	2.89	.01	.10	2

VANGEOCHEM LAB LIMITED
1521 PEMBERTON AVENUE
NORTH VANCOUVER, B.C. V7P 2S3

UNION CARBIDE PROJECT # SOLUTION FROM VANGEOCHEM JOB# 82-097 FILE # 82-1198

CUTTINS CREEK SOIL GRID

SAMPLE #	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm
100S+50W	1	35	12	79	.1	11	12	1154	3.04	11	2	ND	2	49	1	2	2	61	.51	.11	11	8	.73	183	.01	6	3.07	.02	.11	2
100S+75W	1	26	11	68	.1	11	9	489	2.70	7	2	ND	2	31	1	2	2	59	.26	.10	16	16	.59	124	.04	4	3.00	.02	.12	2
200N+25ES	1	57	12	68	.1	12	14	1125	3.13	5	2	ND	2	63	1	2	2	62	.67	.12	17	11	.77	191	.02	6	2.13	.03	.14	2
200N+50ES	1	42	12	67	.1	11	12	874	3.23	11	2	ND	2	66	1	2	2	58	.73	.10	16	11	.76	182	.01	6	2.28	.03	.19	2
200N+075ES	1	60	14	66	.1	14	13	1003	3.31	7	2	ND	2	94	1	2	2	59	2.15	.11	16	10	1.00	212	.01	4	2.41	.04	.20	2
200N+100ES	1	88	14	79	.1	13	14	1593	3.51	9	2	ND	2	73	1	2	2	63	.85	.18	21	9	.86	319	.01	4	2.78	.02	.18	2
200N+125ES	1	73	11	61	.1	11	13	1056	3.26	7	2	ND	2	23	1	2	2	59	.24	.17	14	9	.73	112	.02	4	2.47	.01	.11	2
200N+150ES	1	47	11	60	.1	11	11	845	3.01	6	2	ND	2	58	1	2	2	60	.73	.12	21	10	.72	225	.03	5	2.43	.02	.14	2
200N+175ES	1	47	11	80	.1	8	11	1764	3.08	6	2	ND	2	39	1	2	2	53	.68	.16	13	6	.53	186	.01	4	2.21	.01	.15	2
200N+200ES	3	66	9	109	.1	8	15	1842	3.87	20	2	ND	2	46	1	2	2	69	.53	.23	5	6	.63	295	.01	4	1.96	.01	.20	2
200N+225ES	2	37	10	68	.1	12	7	568	3.14	5	2	ND	2	20	1	2	2	65	.12	.14	8	35	.51	129	.03	4	2.67	.01	.11	2
200N+25WS	1	50	10	63	.1	12	14	1040	3.33	8	2	ND	2	64	1	2	2	64	.70	.12	15	11	.88	161	.01	5	2.52	.02	.18	2
200N+50WS	1	67	12	63	.1	15	15	1073	3.75	8	2	ND	2	42	1	2	2	72	.43	.11	15	13	.94	146	.01	4	2.98	.02	.12	2
200N+075WS	1	33	16	857	.1	28	13	1080	2.95	9	2	ND	2	45	1	2	2	61	.28	.15	16	19	.70	119	.01	4	3.24	.01	.15	3
200N+100WS	2	27	11	68	.1	9	11	1049	2.81	6	2	ND	2	22	1	2	2	61	.12	.14	12	9	.55	85	.01	3	2.90	.01	.11	2
200N+125WS	1	44	15	76	.1	11	12	904	2.92	7	2	ND	2	59	1	2	2	63	.61	.13	20	10	.81	179	.03	5	2.68	.03	.12	2
200N+150WS	2	51	14	71	.1	15	13	1447	3.52	13	2	NB	2	39	1	2	2	63	.45	.17	15	17	.87	123	.03	4	2.90	.01	.11	2
200N+175WS	6	18	11	70	.1	34	21	3245	3.13	7	2	ND	2	34	1	2	2	59	.47	.20	3	37	1.51	153	.01	10	2.49	.01	.13	2
200N+200WS	1	38	11	60	.1	24	13	1789	3.26	12	2	ND	2	16	1	2	2	63	.10	.21	6	29	.97	171	.01	4	2.80	.01	.09	2
200N+225WS	1	29	10	68	.1	19	13	1270	3.68	23	2	ND	2	13	1	2	2	64	.07	.19	4	29	.87	93	.01	6	2.85	.01	.10	2
STD A-1	8	35	43	197	.1	37	13	1118	2.98	11	2	ND	2	43	2	2	2	61	.65	.10	8	76	.86	340	.09	8	2.19	.02	.23	2
200N+250WS	1	48	14	62	.1	25	14	681	3.62	67	2	ND	2	62	1	2	2	54	.71	.12	15	27	1.38	179	.01	5	2.91	.01	.08	2
200S+25ES	9	37	15	84	.1	12	14	1319	3.57	91	2	ND	2	35	1	2	2	36	.35	.16	11	8	.60	256	.01	5	1.82	.01	.16	2
200S+50ES	20	33	17	72	.1	12	11	1221	3.57	134	2	ND	2	36	1	2	2	30	.31	.14	12	12	.51	172	.01	5	1.53	.01	.20	2
200S+075ES	95	22	28	64	1.6	8	8	808	4.94	144	2	ND	2	41	1	2	2	35	.08	.10	14	12	.41	126	.01	4	1.78	.01	.27	2
200S+100ES	4	34	25	102	.1	17	18	1471	4.67	113	2	ND	2	21	1	2	2	41	.23	.13	17	14	.83	158	.01	4	2.41	.01	.20	2
200S+125ES	1	35	15	69	.1	16	14	1259	3.68	14	2	ND	2	17	1	2	2	60	.23	.18	12	13	.72	188	.01	4	3.23	.01	.15	2
200S+150ES	3	27	24	74	.1	7	12	4443	3.26	16	2	ND	2	18	1	2	2	39	.21	.19	15	5	.46	214	.01	4	2.14	.01	.17	2
200S+175ES	1	75	18	88	.1	14	15	1975	3.92	15	2	ND	2	28	1	2	2	75	.19	.16	15	15	.95	221	.03	5	4.32	.01	.15	2
200S+200ES	1	53	17	74	.1	14	15	1290	3.76	19	2	ND	2	37	1	2	2	60	.22	.12	19	12	.84	190	.01	6	3.38	.01	.14	2
200S+225ES	1	67	16	67	.1	21	15	1944	3.59	8	2	ND	2	17	1	2	2	45	.23	.13	16	21	.77	210	.01	4	2.86	.01	.20	2
200S+25WS	5	34	14	81	.6	24	11	1071	3.43	48	2	ND	2	27	1	2	2	47	.32	.15	8	26	.54	166	.01	3	1.96	.01	.14	2
200S+50WS	1	24	10	47	.1	6	4	208	2.04	13	2	ND	2	21	1	2	2	45	.10	.12	6	8	.30	96	.01	3	1.95	.01	.10	2
200S+075WS	2	53	18	86	.1	18	13	1312	3.50	29	2	ND	2	28	1	2	2	58	.29	.17	18	28	.78	161	.01	5	3.63	.01	.17	2
200S+100WS	3	45	20	81	.1	12	12	708	2.99	18	2	ND	2	53	1	2	2	54	.69	.10	18	12	.83	189	.02	4	2.13	.03	.13	2
200S+125WS	1	49	17	77	.1	12	13	1187	3.36	24	2	ND	2	48	1	2	2	59	.56	.11	18	13	.81	169	.02	6	2.45	.02	.15	2
200S+150WS	9	135	29	75	.1	19	21	1400	5.75	173	2	ND	2	23	1	2	2	40	.32	.15	26	14	.75	109	.01	4	2.12	.01	.12	2
300N+25ES	1	29	7	57	.1	11	9	443	2.43	3	2	ND	2	17	1	2	2	48	.13	.12	6	11	.76	78	.01	4	2.34	.01	.10	2
300N+50ES	1	26	9	62	.1	9	9	708	3.93	4	2	ND	2	7	1	2	2	64	.02	.16	8	12	.52	79	.01	6	2.70	.01	.12	2
300N+075ES	1	55	12	69	.1	15	14	1078	3.50	7	2	ND	2	43	1	2	2	56	.70	.11	21	11	.84	223	.01	8	2.20	.02	.18	2
300N+100ES	1	58	10	65	.1	14	12	806	3.44	3	2	ND	2	51	1	2	2	52	.71	.10	17	10	.77	276	.01	5	2.20	.02	.15	2

VANGEOCHEM LAB LIMITED
1521 PEMBERTON AVENUE
NORTH VANCOUVER, B.C. V7P 2S3

UNION CARBIDE PROJECT # SOLUTION FROM VANGEOCHEM JOB# 82-097 FILE # 82-1198

CUMMINS CREEK SOIL GRID

SAMPLE #	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm
300N+125ES	1	53	8	61	.1	12	13	1099	3.07	10	2	ND	2	33	1	2	2	41	.67	.13	14	8	.63	203	.01	4	1.70	.01	.13	2
300N+150ES	1	55	6	57	.1	15	12	929	3.04	10	2	ND	2	53	1	2	2	45	1.54	.11	15	11	.89	186	.01	4	1.54	.01	.14	2
300N+175ES	1	79	6	74	.1	9	17	722	4.49	41	2	ND	2	48	1	2	2	63	.50	.12	11	7	.30	620	.01	4	1.13	.01	.11	2
300N+200ES	1	55	7	64	.1	33	16	846	3.69	7	2	ND	2	40	1	2	2	35	.71	.12	11	17	.37	187	.01	3	1.25	.01	.14	2
300N+225ES	1	161	10	67	.1	13	14	1267	3.39	6	2	ND	2	66	1	2	2	60	.86	.11	17	11	1.00	222	.01	4	2.41	.02	.15	2
300N+25WS	1	46	10	64	.1	12	13	1226	2.99	4	2	ND	2	13	1	2	2	56	.11	.14	13	12	.73	101	.01	3	2.96	.01	.09	2
300N+50WS	1	51	10	62	.1	12	12	1059	2.99	5	2	ND	2	41	1	2	2	54	.42	.11	15	10	.83	162	.01	4	2.15	.02	.11	2
300N+075WS	1	38	8	48	.1	10	7	293	2.15	6	2	ND	2	44	1	2	2	41	.46	.14	26	10	.70	183	.01	2	2.42	.02	.08	2
300N+100WS	1	41	10	57	.1	12	10	785	2.72	8	2	ND	2	27	1	2	2	51	.18	.11	14	11	.70	148	.01	2	3.15	.01	.08	2
300N+125WS	1	29	10	65	.1	12	13	1042	3.23	5	2	ND	2	22	1	2	2	55	.18	.12	6	14	.81	87	.01	3	2.54	.01	.10	2
300N+150WS	2	15	6	40	.1	8	6	485	2.33	4	2	ND	2	14	1	2	2	43	.11	.12	4	12	.45	72	.02	4	1.79	.01	.08	2
300N+175WS	1	31	9	51	.1	7	10	1478	3.82	9	4	ND	2	8	1	2	2	61	.04	.19	5	9	.46	116	.01	4	2.30	.01	.10	2
300N+200WS	1	39	8	54	.1	17	12	1033	3.11	18	2	ND	2	25	1	2	2	52	.25	.14	8	18	1.00	112	.01	2	2.66	.01	.07	2
300N+225WS	1	27	7	51	.1	22	13	1041	3.08	29	2	ND	2	17	1	2	2	50	.18	.14	8	26	1.18	125	.01	3	2.68	.01	.09	2
300N+250WS	1	35	6	48	.1	26	16	1118	3.06	28	2	ND	2	30	1	2	2	51	.32	.10	8	28	1.41	118	.01	2	2.77	.01	.08	2
300S+25ES	2	25	10	65	.1	8	8	719	3.33	17	2	ND	2	24	1	2	2	55	.28	.16	4	8	.49	125	.01	4	1.93	.01	.12	2
300S+50ES	2	22	10	58	.1	7	9	1639	2.97	24	2	ND	2	25	1	2	2	46	.14	.18	6	8	.35	188	.02	3	1.72	.01	.14	2
300S+075ES	1	19	8	56	.1	5	6	595	2.54	14	2	ND	2	15	1	2	2	53	.05	.14	5	7	.29	126	.02	3	1.83	.01	.11	2
300S+100ES	1	22	9	59	.1	7	8	502	3.93	11	2	ND	2	16	1	2	2	75	.07	.18	4	10	.58	135	.02	3	2.67	.01	.11	2
300S+125ES	1	24	9	63	.1	9	10	1450	3.00	6	2	ND	2	16	1	2	2	59	.09	.13	7	9	.59	145	.01	3	2.57	.01	.13	2
STD A-1	1	29	37	164	.1	30	11	923	2.44	7	2	ND	2	36	1	2	2	50	.53	.09	7	62	.70	280	.07	6	1.81	.02	.19	2
VANGEO STD	16	130	29	65	1.7	447	10	449	2.08	9	2	ND	3	28	1	2	2	27	1.21	.07	4	51	.49	355	.03	20	.80	.04	.19	2
300S+150ES	1	24	8	59	.1	15	11	1170	2.86	11	2	ND	2	10	1	2	2	33	.15	.09	13	11	.77	128	.01	2	1.98	.01	.11	2
300S+175ES	1	23	9	70	.1	10	9	2546	2.81	6	2	ND	2	11	1	2	2	42	.11	.13	10	9	.48	211	.01	3	2.07	.01	.14	2
300S+200ES	1	33	9	81	.1	15	10	417	3.98	17	2	ND	2	10	1	2	2	46	.11	.13	9	12	.57	103	.01	3	2.85	.01	.08	2
300S+225ES	1	15	8	58	.1	7	7	1102	2.84	8	2	ND	2	11	1	2	2	43	.10	.10	13	8	.55	194	.01	3	2.49	.01	.14	2
300S+250ES	1	16	11	63	.1	6	6	779	2.97	5	2	ND	2	14	1	2	2	64	.10	.08	5	9	.45	122	.03	3	2.82	.01	.08	2
300S+25WS	2	28	12	58	.1	7	7	397	3.45	8	2	ND	2	21	1	2	2	68	.15	.11	4	8	.51	94	.02	4	2.85	.01	.07	2
300S+50WS	1	38	9	77	.1	11	12	858	3.32	10	2	ND	2	42	1	2	2	68	.43	.18	5	12	.82	343	.01	2	2.64	.01	.15	2
300S+075WS	1	33	7	73	.2	11	12	1245	3.45	5	2	ND	2	16	1	2	2	70	.07	.12	5	14	.69	130	.02	3	3.18	.01	.10	2
300S+100WS	1	57	13	81	.1	14	15	1487	3.44	8	2	ND	2	25	1	2	2	70	.16	.13	11	14	.94	124	.01	2	3.13	.01	.10	2
300S+125WS	2	81	22	77	.1	16	13	1659	3.36	23	2	ND	2	25	1	2	2	53	.35	.11	13	13	.88	142	.03	3	2.46	.01	.10	2
300S+150WS	4	59	16	84	.2	19	14	1320	3.66	29	2	ND	2	27	1	2	2	47	.29	.14	26	17	.74	193	.01	4	2.53	.01	.12	2
300S+175WS	7	44	13	66	.1	15	15	801	3.23	45	2	ND	2	15	1	2	2	36	.12	.16	19	12	.57	96	.01	4	1.98	.01	.14	2
400N+25ES	1	26	13	60	.1	9	10	1049	2.59	2	2	ND	2	13	1	2	2	53	.06	.16	14	12	.49	71	.03	4	3.36	.01	.09	2
400N+50ES	1	60	10	62	.1	12	12	879	3.22	9	2	ND	2	36	1	2	2	59	.35	.10	17	11	.75	165	.02	4	2.70	.01	.11	2
400N+075ES	1	42	10	66	.1	10	12	1146	2.83	5	2	ND	2	28	1	2	2	52	.31	.13	14	9	.71	149	.01	4	2.28	.01	.13	2
400N+100ES	1	27	17	87	.1	8	10	1029	2.50	9	2	ND	2	32	1	2	2	39	.45	.13	14	6	.58	153	.01	4	1.50	.01	.15	2
400N+125ES	1	43	10	61	.1	11	12	1062	2.94	7	2	ND	2	38	1	2	2	47	.57	.11	14	9	.83	147	.01	5	1.75	.02	.13	2
400N+150ES	1	52	10	57	.1	11	11	950	2.62	6	2	ND	2	62	1	2	2	51	.81	.11	19	9	.72	214	.02	4	2.36	.02	.12	2
400N+175ES	1	29	8	62	.1	10	10	770	2.47	2	2	ND	2	51	1	2	2	48	.62	.12	11	10	.70	138	.02	5	2.15	.02	.16	2

VANGEOCHEM LAB LIMITED
1521 PEMBERTON AVENUE
NORTH VANCOUVER, B.C. V7P 2S3

UNION CARBIDE PROJECT # SOLUTION FROM VANGEOCHEM JOB# 82-097 FILE # 82-1198

CUMMINS CREEK SOIL GRID

SAMPLE #	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm
400N+200ES	1	27	9	73	.1	9	11	993	2.54	4	2	ND	2	40	1	2	2	37	.75	.16	14	5	.68	165	.01	5	1.85	.01	.12	2
400N+225ES	1	43	10	54	.1	11	11	832	2.52	5	2	ND	2	68	1	2	2	47	.85	.09	19	8	.77	172	.02	3	2.10	.02	.12	2
400N+250ES	1	41	9	55	.1	11	11	909	2.58	7	2	ND	2	83	1	2	2	46	.95	.13	14	9	.82	197	.02	3	1.92	.02	.14	2
400N+25WS	2	20	10	46	.1	7	10	1253	2.42	2	2	ND	2	28	1	2	2	48	.18	.14	28	10	.53	131	.01	2	2.34	.01	.06	2
400N+50WS	5	26	10	45	.1	9	11	2041	2.35	3	2	ND	2	22	1	2	2	46	.16	.15	31	10	.67	133	.01	3	2.54	.01	.06	2
400N+075WS	3	15	10	87	.1	9	11	1523	2.71	5	2	ND	2	66	1	2	2	56	.44	.13	12	15	.65	248	.05	3	2.29	.01	.10	2
400N+100WS	2	12	7	50	.1	6	9	1160	2.27	4	2	ND	2	18	1	2	2	46	.14	.12	6	8	.35	82	.02	2	1.77	.01	.07	2
400N+125WS	1	26	7	45	.1	11	9	885	2.61	5	2	ND	2	11	1	2	2	42	.09	.12	6	14	.62	71	.01	3	2.16	.01	.07	2
400N+150WS	1	32	7	46	.1	15	11	932	2.54	3	2	ND	2	9	1	2	2	40	.10	.11	9	11	.78	86	.01	2	2.55	.01	.06	2
400N+175WS	1	23	6	51	.1	11	8	515	2.67	4	2	ND	2	10	1	2	2	44	.13	.13	5	15	.70	88	.01	2	2.25	.01	.06	2
400N+200WS	1	43	9	36	.1	11	8	1492	2.29	5	2	ND	2	19	1	2	2	42	.37	.09	15	12	.78	193	.01	3	2.11	.01	.08	2
400N+25ES	2	48	11	64	.1	14	13	1143	3.05	12	2	ND	2	56	1	2	2	49	.55	.07	18	8	.77	172	.01	3	2.25	.01	.09	2
400N+50ES	1	36	11	71	.1	19	16	1140	3.80	6	2	ND	2	20	1	2	2	62	.26	.10	9	12	1.26	112	.01	2	2.46	.01	.08	2
400N+075ES	1	40	11	74	.1	16	15	2166	3.54	17	2	ND	2	10	1	2	2	61	.12	.13	6	18	.76	121	.01	2	2.71	.01	.08	2
400N+100ES	1	46	11	67	.1	25	20	2153	4.03	24	2	ND	2	11	1	2	2	60	.16	.10	13	27	1.15	147	.01	2	2.61	.01	.08	2
400N+125ES	1	47	15	82	.1	21	19	3063	4.07	12	2	ND	2	15	1	2	2	65	.23	.18	10	24	.97	292	.01	2	2.90	.01	.11	2
400N+150ES	1	53	14	53	.1	22	19	2610	3.81	14	2	ND	2	15	1	2	2	54	.36	.11	17	23	1.14	230	.01	2	2.63	.01	.15	2
400N+175ES	1	34	14	66	.1	15	14	1862	3.70	10	2	ND	2	9	1	2	2	53	.09	.15	12	19	.91	177	.01	2	3.06	.01	.10	2
400N+200ES	1	30	23	57	.1	10	23	2031	3.45	8	2	ND	2	12	1	2	2	37	.22	.16	16	9	.67	349	.01	2	2.43	.01	.15	2
400N+225ES	3	50	13	59	.1	15	14	1728	3.25	18	2	ND	2	17	1	2	2	30	.44	.15	25	11	.71	163	.01	2	1.71	.01	.10	2
STD A-1	1	30	39	173	.2	32	12	976	2.58	7	2	ND	2	37	1	2	2	53	.56	.09	7	66	.73	290	.07	6	1.86	.02	.20	2
VANGEO STD	17	147	37	77	1.8	520	11	508	2.30	9	2	ND	3	31	1	2	2	28	1.39	.08	5	57	.54	387	.03	20	.83	.04	.20	2
400S+250ES	1	40	14	75	.1	14	12	1547	3.08	8	2	ND	2	15	1	2	2	55	.12	.13	9	11	.77	123	.01	3	2.67	.01	.08	2
400S+25WS	1	58	12	49	.1	25	15	1231	3.06	8	2	ND	2	27	1	2	2	36	.23	.11	12	15	.62	124	.01	3	2.48	.01	.09	2
400S+50WS	1	25	13	65	.1	8	8	809	3.37	11	2	ND	2	14	1	2	2	65	.04	.11	6	9	.55	94	.01	3	2.59	.01	.06	2
400S+075WS	1	27	12	99	.1	9	8	910	3.02	5	2	ND	2	21	1	2	2	54	.11	.14	7	7	.57	195	.01	2	2.61	.01	.06	2
400S+100WS	1	26	11	61	.1	7	8	803	2.49	7	2	ND	2	35	1	2	2	54	.35	.10	3	8	.44	186	.01	2	1.84	.01	.08	2
400S+125WS	1	27	11	70	.1	7	7	811	2.87	5	2	ND	2	28	1	2	2	63	.15	.11	4	8	.45	181	.01	2	2.06	.01	.08	2
400S+150WS	1	47	13	68	.1	11	15	1122	3.04	12	2	ND	2	87	1	2	2	61	.87	.09	14	9	.89	129	.02	3	2.53	.03	.13	2
400S+175WS	4	71	35	104	.1	8	25	2325	6.38	53	2	ND	2	28	1	2	2	48	.40	.15	20	2	.69	186	.01	2	1.77	.01	.08	2
400S+200WS	21	149	34	85	1.7	17	24	2609	6.83	82	2	ND	2	21	1	2	2	36	.37	.13	30	24	1.26	203	.01	2	2.10	.01	.07	2
500N+25ES	1	45	11	62	.1	12	12	1038	2.97	6	2	ND	2	47	1	2	2	48	.43	.11	19	10	.73	193	.02	2	2.17	.01	.11	2
500N+50ES	1	35	10	52	.1	9	9	881	2.25	3	2	ND	2	38	1	2	2	43	.33	.10	14	8	.57	149	.01	2	1.78	.01	.08	2
500N+075ES	1	38	16	70	.1	12	12	1177	2.84	10	2	ND	2	34	1	2	2	41	.49	.11	15	9	.70	209	.01	2	1.70	.01	.12	2
500N+100ES	1	32	14	62	.1	12	11	1029	2.63	6	2	ND	2	57	1	2	2	43	.68	.11	23	9	.79	210	.01	3	1.80	.02	.15	2
500N+125ES	1	29	75	162	.1	7	11	1289	2.86	20	2	ND	2	29	1	2	2	50	.43	.15	19	6	.59	183	.03	4	1.38	.01	.08	2
500N+150ES	1	33	17	122	.1	8	11	1296	3.04	6	2	ND	2	51	1	2	2	50	.67	.16	18	8	.67	320	.03	2	1.24	.01	.09	2
500N+175ES	1	26	14	63	.1	11	14	1020	2.72	3	2	ND	4	18	1	2	2	52	.20	.14	23	9	.61	88	.03	3	2.69	.01	.11	2
500N+200ES	1	32	12	68	.1	13	14	1102	2.88	6	2	ND	2	15	1	2	2	55	.12	.13	15	15	.79	143	.01	2	2.72	.01	.10	2
500N+225ES	1	22	11	56	.1	10	11	894	2.59	5	2	ND	2	47	1	2	2	51	.29	.16	32	10	.65	197	.01	3	2.67	.01	.11	2
500N+250ES	1	14	10	92	.1	9	11	1393	2.46	3	2	ND	2	44	1	2	2	40	.31	.16	7	9	.55	167	.01	6	1.71	.01	.17	2

VANGEOCHEM LAB LIMITED
1521 PEMBERTON AVENUE
NORTH VANCOUVER, B.C. V7P 2S3

UNION CARBIDE PROJECT # SOLUTION FROM VANGEOCHEM JOB# 82-097 FILE # 82-1198 PAGE # 5

CUMMINS CREEK SOIL GRID

SAMPLE #	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm
500N+25WS	1	24	13	72	.1	8	10	1060	3.08	4	2	ND	2	11	1	2	2	54	.04	.15	8	9	.51	90	.01	4	2.67	.01	.07	2
500N+50WS	1	42	11	61	.1	11	10	666	2.80	9	2	ND	2	16	1	2	2	52	.10	.12	9	12	.69	89	.01	5	3.26	.01	.06	2
500N+075WS	1	62	12	65	.1	13	14	1457	3.19	4	2	ND	2	53	1	2	2	53	.56	.11	15	9	.87	224	.01	3	2.56	.01	.09	2
500N+100WS	1	48	11	62	.1	17	12	1035	2.97	4	2	ND	2	38	1	2	2	50	.49	.11	16	13	1.02	230	.01	4	2.37	.01	.08	2
500N+125WS	1	34	11	48	.1	11	8	557	2.80	10	2	ND	2	29	1	2	2	52	.24	.13	11	11	.70	142	.01	4	2.62	.01	.05	2
500N+150WS	1	12	5	48	.1	7	6	342	2.72	4	2	ND	2	9	1	2	2	51	.08	.12	5	14	.47	77	.03	3	2.75	.01	.05	2
500N+175WS	1	20	7	72	.1	17	13	1120	3.33	3	2	ND	2	10	1	2	2	37	.28	.12	10	8	1.44	74	.01	6	2.17	.02	.11	2
500N+200WS	1	32	9	64	.1	22	13	1059	3.33	7	2	ND	2	25	1	2	2	49	.35	.11	14	13	1.38	152	.01	3	2.65	.01	.09	2
STD A-1	1	31	39	180	.2	34	12	1013	2.68	9	2	ND	2	39	1	2	2	55	.58	.10	7	68	.76	304	.08	7	1.96	.02	.21	2

VANGEOCHEM LAB LIMITED
1521 PEMBERTON AVENUE
NORTH VANCOUVER, B.C. V7P 2S3

UNION CARBIDE PROJECT # SOLUTION FROM VANGEOCHEM JOB# 82-151 FILE # 82-0966

DISCOVERY SOIL GRID

SAMPLE #	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm
T.A. 23S	1	5	11	9	.2	2	1	29	.68	2	2	ND	2	6	1	2	2	28	.04	.06	5	13	.07	42	.04	11	1.39	.01	.02	2
T.A. 24S	1	6	11	23	.1	5	2	75	2.54	5	3	ND	2	5	1	2	2	62	.08	.07	5	20	.23	47	.07	6	2.22	.01	.04	2
T.A. 25S	1	8	11	37	.1	5	3	277	1.90	10	4	ND	2	6	1	2	2	45	.08	.11	9	18	.22	43	.03	8	2.82	.01	.04	2
T.A. 26S	1	7	9	50	.1	7	4	342	3.04	4	2	ND	2	24	1	2	2	66	.34	.14	9	32	.50	120	.14	18	2.50	.01	.07	2
T.A. 27S	1	6	12	19	.3	3	1	88	.85	2	2	ND	2	10	1	2	2	26	.05	.09	5	11	.08	64	.03	5	1.29	.01	.04	2
T.A. 28S	1	8	12	33	.2	6	4	356	3.00	10	2	ND	2	33	1	2	2	59	.31	.13	32	20	.33	108	.04	15	3.30	.02	.02	2
T.A. 29S	1	9	10	39	.3	6	4	134	1.97	5	2	ND	2	27	1	2	2	46	.31	.14	20	20	.44	100	.07	12	2.66	.01	.03	2
T.A. 30S	1	14	12	68	.1	10	8	545	2.93	12	2	ND	2	45	1	2	2	72	.58	.17	22	13	.51	120	.08	17	1.57	.02	.05	2
T.A. 31S	1	13	11	71	.1	9	8	698	2.92	12	3	ND	2	47	1	2	2	73	.65	.19	23	13	.49	119	.08	16	1.61	.02	.05	2
T.A. 32S	1	13	13	72	.1	10	8	688	3.17	14	2	ND	2	47	1	2	2	85	.58	.19	24	15	.49	113	.10	15	1.81	.02	.04	2
T.A. 33S	2	13	13	63	.1	9	7	574	2.86	9	2	ND	2	47	1	2	2	68	.50	.16	23	14	.49	109	.06	11	2.11	.02	.04	2
T.A. 34S	3	11	13	48	.3	7	5	176	2.02	7	2	ND	2	32	1	2	2	41	.27	.13	21	11	.43	88	.02	12	2.54	.02	.04	2
T.A. 35S	1	13	13	71	.1	9	7	475	3.07	9	2	ND	2	66	1	2	2	73	.59	.18	25	13	.55	97	.06	14	2.06	.01	.04	2
T.A. 36S	1	14	14	67	.1	9	9	701	2.87	13	2	ND	2	83	1	2	2	62	.61	.16	25	11	.53	122	.06	16	1.93	.02	.05	2
T.A. 37S	1	15	14	72	.1	9	9	725	2.99	17	2	ND	2	91	1	2	2	59	.60	.14	26	10	.60	126	.04	7	1.94	.01	.06	2
T.A. 38S	1	14	11	69	.1	11	8	800	2.92	15	2	ND	2	104	2	2	2	60	.71	.14	23	14	.55	152	.05	10	1.30	.03	.07	2
T.A. 39S	1	19	11	67	.1	11	10	892	3.08	14	2	ND	3	104	1	2	2	55	.76	.14	29	9	.65	185	.04	12	1.94	.02	.09	2
T.A. 40S	1	18	11	66	.1	11	10	924	2.92	14	2	ND	2	105	1	2	2	59	.77	.16	25	8	.52	174	.06	7	1.53	.02	.07	2
T.A. 41S	1	17	9	68	.1	10	9	858	3.07	13	3	ND	2	84	1	2	2	62	.68	.14	23	10	.61	170	.05	13	1.50	.03	.08	2
T.A. 42S	1	17	13	67	.1	12	7	606	3.00	12	2	ND	2	64	1	2	2	55	.58	.15	23	13	.61	153	.06	6	1.72	.02	.07	2
VANGEO STD	19	148	32	73	2.3	521	10	491	3.06	14	3	ND	3	24	1	4	2	41	1.54	.08	5	38	.57	242	.04	23	.83	.04	.22	2
T.A. 43S	11	13	9	23	.1	5	1	536	2.38	23	19	ND	2	185	1	2	2	22	1.80	.15	23	4	.14	163	.01	6	1.00	.02	.06	2
T.A. 44S	5	6	7	36	.2	3	2	365	.72	4	2	ND	2	181	1	2	2	15	1.82	.12	6	5	.14	126	.01	5	.70	.01	.04	2
T.A. 45S	2	9	12	52	.1	7	4	439	2.08	13	2	ND	2	46	1	2	2	43	.42	.16	10	9	.31	103	.04	16	3.10	.02	.04	2
T.A. 46S	2	13	10	56	.2	9	3	219	2.48	7	2	ND	2	48	1	2	2	43	.41	.13	23	12	.49	141	.04	14	3.29	.01	.05	2
T.A. 47S	1	17	15	70	.1	9	9	1018	3.11	14	2	ND	2	34	1	2	2	54	.58	.15	28	9	.62	151	.04	15	2.04	.01	.08	2
T.A. 48S	3	7	14	43	.3	5	2	265	2.31	5	2	ND	2	39	1	2	2	48	.34	.12	23	11	.25	107	.02	10	3.21	.02	.03	2
T.A. 49S	2	10	14	54	.1	11	5	369	2.54	12	2	ND	2	20	1	2	2	55	.28	.14	18	11	.47	92	.06	16	3.07	.02	.04	2
T.A. 50S	1	15	11	53	.1	9	7	458	2.73	11	2	ND	3	51	1	2	2	60	.41	.10	24	13	.43	391	.06	7	2.48	.02	.04	2
T.A. 51S	1	13	14	59	.1	9	5	609	2.94	11	2	ND	3	18	1	2	2	69	.25	.15	17	14	.40	86	.07	19	3.29	.02	.04	2
T.A. 52S	1	11	12	59	.1	8	7	438	2.90	14	2	ND	2	19	1	2	2	56	.21	.12	21	11	.52	77	.04	15	3.74	.02	.04	2
T.A. 53S	1	13	13	67	.1	8	8	710	2.95	13	2	ND	2	24	1	2	2	68	.32	.15	21	13	.47	107	.05	16	3.03	.01	.04	2
T.A. 54S	1	17	15	59	.2	8	10	1248	2.83	15	3	ND	2	12	1	2	2	80	.22	.22	22	15	.35	66	.06	15	3.49	.01	.04	2
T.A. 55S	1	14	14	63	.2	9	7	510	2.66	11	3	ND	2	32	1	2	2	81	.47	.17	23	14	.45	116	.09	13	2.17	.03	.04	2
T.A. 56S	1	14	9	61	.1	10	8	570	2.95	11	2	ND	2	36	1	2	2	77	.44	.14	22	14	.44	122	.10	6	1.83	.02	.06	2
T.A. 67S	1	10	15	38	.1	6	5	552	1.94	10	3	ND	2	18	1	2	2	38	.18	.11	14	14	.31	86	.03	14	3.51	.01	.04	2
T.A. 68S	1	10	9	69	.1	9	5	587	3.03	11	2	ND	2	33	1	2	2	94	.56	.18	20	15	.37	99	.13	14	1.03	.03	.04	2
T.A. 69S	1	11	12	48	.1	6	5	617	2.22	11	2	ND	2	15	1	2	2	54	.21	.14	19	12	.31	77	.04	16	3.62	.01	.03	2
T.A. 70S	1	15	14	65	.1	9	7	558	2.92	14	2	ND	2	59	1	2	2	62	.66	.14	25	13	.56	176	.05	7	1.87	.02	.05	2
T.A. 71S	1	13	12	63	.1	7	6	539	3.05	10	2	ND	2	36	1	2	2	60	.39	.15	23	12	.41	117	.04	18	3.29	.02	.04	2

VANGEOCHEM LAB LIMITED
1521 PEMBERTON AVENUE
NORTH VANCOUVER, B.C. V7P 2S3

UNION CARBIDE PROJECT # SOLUTION FROM VANGEOCHEM JOB# 82-151 FILE # 82-0966

DISCOVERY SOIL GRID

SAMPLE #	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppb	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm
T.A. 72S	2	8	9	31	.1	6	2	186	1.85	6	2	ND	2	21	1	2	2	34	.14	.06	20	10	.23	53	.04	4	2.52	.01	.03	2
T.A. 73S	3	8	7	32	.1	5	3	306	1.99	10	2	ND	2	16	1	2	2	44	.16	.09	14	12	.27	55	.05	5	3.12	.01	.03	2
T.A. 74S	2	9	12	49	.1	5	2	326	1.99	5	2	ND	2	9	1	2	2	46	.11	.14	12	14	.22	63	.03	4	3.81	.01	.03	2
T.A. 75S	5	5	10	32	.3	5	2	219	1.62	6	4	ND	2	41	1	2	2	33	.31	.13	10	12	.22	93	.03	2	2.74	.01	.03	2
T.A. 76S	38	9	12	30	.2	6	5	103	3.76	39	30	ND	2	50	4	2	2	120	.52	.11	25	23	.42	140	.14	5	2.74	.01	.02	2
T.A. 77S	2	7	14	38	.2	5	4	330	2.22	5	2	ND	2	35	1	2	2	44	.33	.14	14	15	.31	111	.05	5	2.20	.01	.03	2
T.A. 78S	2	6	8	32	.1	5	3	177	1.73	9	2	ND	2	27	1	2	2	32	.29	.09	11	7	.22	59	.03	4	2.14	.01	.02	2
T.A. 79S	4	13	7	58	.1	8	6	328	2.30	4	2	ND	2	41	1	2	2	37	.40	.12	22	7	.75	157	.01	2	2.68	.01	.05	2
T.A. 80S	1	14	10	66	.1	9	7	625	3.11	12	2	ND	2	15	1	2	2	84	.29	.16	15	10	.36	71	.10	5	2.23	.01	.04	2
T.A. 81S	1	17	13	72	.2	10	11	966	3.19	13	2	ND	2	45	1	2	2	69	.55	.16	27	12	.57	164	.06	5	1.88	.01	.08	2
T.A. 82S	1	19	14	72	.2	11	11	932	3.29	13	2	ND	2	50	1	2	2	66	.66	.16	28	12	.70	199	.04	3	2.15	.01	.10	2
T.A. 83S	1	19	13	75	.2	10	10	873	3.37	14	2	ND	2	37	1	2	2	62	.75	.18	28	10	.81	189	.04	4	1.57	.02	.12	2
T.A. 84S	1	17	10	73	.2	10	8	581	3.17	12	3	ND	2	46	1	2	2	77	.65	.15	26	14	.57	203	.09	5	1.87	.02	.09	2
T.A. 85S	1	17	11	72	.1	10	9	860	3.26	10	2	ND	2	53	1	2	2	66	.79	.17	26	12	.74	199	.04	6	1.55	.02	.11	2
T.A. 86S	1	19	12	73	.1	9	9	772	3.23	14	2	ND	2	46	1	2	2	79	.57	.15	23	14	.53	164	.09	5	2.02	.02	.07	2
T.A. 87S	1	22	14	78	.2	12	9	828	3.34	15	2	ND	3	62	4	2	2	70	.82	.15	27	13	.83	174	.05	5	1.64	.04	.12	2
T.A. 88S	1	16	13	73	.2	10	7	842	3.36	14	2	ND	2	55	2	2	2	64	.76	.16	29	11	.80	182	.05	4	1.48	.04	.12	2
T.A. 89S	1	19	12	71	.1	11	11	779	3.50	14	2	ND	3	74	1	2	2	68	.88	.14	24	10	.85	164	.05	5	1.55	.04	.11	2
T.A. 90S	1	10	9	70	.1	8	6	491	3.16	5	2	ND	2	32	1	2	2	86	.52	.15	22	14	.46	103	.08	3	.85	.02	.07	2
T.A. 91S	1	12	13	67	.1	7	6	656	2.95	8	2	ND	2	38	1	2	2	66	.59	.18	25	12	.53	140	.06	4	1.06	.02	.09	2
VANGEO STD	10	152	53	73	2.9	513	9	478	2.97	14	2	ND	3	23	1	3	2	41	1.59	.08	5	79	.56	239	.04	20	.91	.04	.22	2
T.A. 92S	2	15	14	82	.3	11	6	573	3.03	10	2	ND	2	33	1	2	2	68	.58	.16	23	13	.57	122	.07	5	1.11	.03	.10	2
T.A. 93S	1	17	14	74	.3	10	7	679	3.25	14	2	ND	2	40	1	2	2	71	.68	.17	26	14	.69	135	.07	5	1.31	.04	.11	2
T.A. 94S	2	13	15	101	.4	14	8	608	4.63	14	2	ND	2	34	3	2	2	149	.59	.15	23	21	.43	96	.11	5	.85	.02	.06	2
T.A. 95S	2	14	14	120	.4	18	10	653	5.90	14	3	ND	2	29	6	2	2	195	.54	.14	21	41	.43	89	.17	5	.80	.03	.06	2
T.A. 96S	2	11	10	67	.3	8	6	479	2.99	10	2	ND	2	27	1	2	2	78	.57	.19	23	17	.45	87	.07	4	.83	.02	.06	2
T.A. 97S	2	14	12	69	.3	10	7	535	3.21	19	2	ND	2	28	1	2	2	66	.57	.18	28	14	.75	142	.05	21	1.26	.04	.11	2
T.A. 98S	1	15	14	73	.2	9	8	689	3.23	12	2	ND	2	32	1	2	2	77	.63	.19	26	13	.56	129	.06	4	1.09	.02	.08	2
T.A. 99S	4	14	10	68	.2	8	6	480	3.11	18	2	ND	2	23	5	2	2	68	.62	.22	27	13	.58	77	.04	5	.89	.02	.08	2
T.A. 100S	1	9	9	58	.1	8	6	407	2.72	10	2	ND	2	34	1	2	2	80	.57	.16	21	14	.42	85	.08	5	.77	.03	.07	2
T.A. 101S	1	11	10	84	.1	14	9	514	4.29	9	2	ND	2	32	1	2	2	144	.57	.14	22	28	.48	87	.12	4	.96	.02	.04	2
T.A. 102S	1	15	9	69	.2	11	8	[illegible]																						

VANGEOCHEM LAB LI ED
1521 PEMBERTON AVENUE
NORTH VANCOUVER, B.C. V7P 2S3

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS, VANCOUVER B.C. PH:253-3158 TELEX:04-53124

ICP GEOCHEMICAL ANALYSIS

A .500 GRAM SAMPLE IS DIGESTED WITH 3 ML OF 3:1:3 HCL TO HNO3 TO H2O AT 90 DEG.C. FOR 1 HOUR. THE SAMPLE IS DILUTED TO 10 MLS WITH WATER.
THIS LEACH IS PARTIAL FOR: Ca,P,Mg,Al,Ti,La,Na,K,W,Ba,Si,Sr,Cr AND B. Au DETECTION 3 ppb.
SAMPLE TYPE - SOLUTION

DATE RECEIVED SEPT 1982 DATE REPORTS MAILED Sept 29/82 ASSAYER D. Toye DEAN TOYE, CERTIFIED B.C. ASSAYER

INVOICE # 7631

UNION CARBIDE PROJECT # SOLUTION FROM VANGEOCHEM JOB# 82-215 FILE # 82-1233 PAGE # 1

SURATT SOIL GRID

SAMPLE #	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppb	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm
MT-100S	1	37	7	43	.1	9	9	642	3.19	5	2	ND	2	25	1	2	2	65	.29	.16	11	20	.99	264	.01	2	2.90	.02	.06	2
MT-101S	1	46	8	54	.1	12	14	1120	3.74	5	2	ND	2	31	1	2	2	67	.69	.07	14	20	1.57	217	.01	2	2.57	.02	.13	2
MT-102S	1	45	5	54	.1	14	15	1065	4.00	6	2	ND	2	21	1	2	2	85	.68	.07	12	26	1.79	202	.02	2	2.34	.03	.10	2
MT-103S	1	37	5	37	.1	9	9	684	2.64	9	2	ND	2	30	1	2	2	62	2.46	.04	8	16	1.33	159	.01	2	2.00	.01	.12	2
MT-104S	1	55	7	48	.1	11	13	1136	3.49	2	2	ND	2	9	1	2	2	55	.36	.08	26	20	1.30	103	.01	3	1.84	.01	.08	2
MT-105S	1	53	8	55	.1	32	17	1207	3.72	8	2	ND	2	40	1	2	2	55	.64	.09	22	84	1.76	277	.01	2	2.19	.01	.09	2
MT-106S	1	1	5	45	.2	1	3	1530	2.57	4	2	ND	2	126	1	2	2	12	.82	.17	23	3	.17	115	.01	2	.44	.01	.04	2
MT-107S	1	2	8	14	.1	1	1	171	.47	2	2	ND	4	146	1	2	2	4	.45	.02	33	2	.22	179	.01	2	.60	.09	.17	2
MT-108S	1	11	12	51	.1	4	5	706	2.54	3	2	ND	2	14	1	2	2	43	.07	.17	20	13	.24	98	.01	2	2.21	.01	.05	2
MT-109S	1	11	12	68	.1	8	7	651	2.89	7	2	ND	2	28	1	2	2	71	.30	.15	19	16	.32	116	.06	2	2.35	.02	.05	2
MT-110S	1	15	12	59	.1	8	10	852	2.55	4	2	ND	4	85	1	2	2	46	.84	.18	34	10	.29	160	.03	2	1.13	.02	.06	2
MT-111S	1	18	12	77	.1	11	11	836	1.82	4	2	ND	5	144	1	2	2	39	.99	.18	37	14	.70	131	.05	2	.82	.01	.10	2
MT-112S	1	18	8	56	.1	7	5	348	2.41	7	2	ND	4	103	1	2	2	57	.74	.16	31	14	.39	164	.08	2	1.06	.02	.09	2
MT-113S	1	17	11	65	.1	8	6	793	1.54	2	2	ND	5	130	1	2	2	40	1.06	.25	39	12	.50	146	.06	2	.68	.02	.10	2
MT-114S	1	20	12	76	.1	13	10	1025	2.25	3	2	ND	6	110	1	2	2	48	.90	.18	37	14	.83	221	.06	2	1.30	.01	.09	2
MT-115S	1	16	13	60	.1	9	8	679	2.18	3	2	ND	4	91	1	2	2	50	.77	.19	37	12	.66	211	.06	2	1.61	.02	.08	2
MT-116S	1	16	10	58	.1	9	7	554	2.01	2	2	ND	4	127	1	2	2	45	.88	.20	40	13	.75	176	.06	2	1.60	.03	.07	2
MT-117S	1	15	10	57	.1	9	7	473	1.71	4	2	ND	4	90	1	2	2	42	.79	.21	35	12	.69	250	.05	2	1.30	.01	.08	2
MT-118S	1	15	12	50	.1	8	5	439	1.59	2	2	ND	5	89	1	2	2	42	.81	.20	34	10	.65	263	.06	2	1.19	.02	.06	2
MT-119S	1	14	12	50	.1	8	3	389	1.69	2	2	ND	3	87	1	2	2	40	.69	.16	36	11	.63	290	.05	2	1.87	.03	.07	2
STD	23	168	35	81	2.8	396	12	613	3.45	19	2	ND	3	27	1	8	2	46	1.71	.09	6	74	.68	177	.04	19	.83	.04	.19	2
MT-120S	1	16	10	47	.1	10	6	433	1.74	2	2	ND	3	79	1	2	2	42	.67	.17	36	16	.59	269	.06	2	1.90	.02	.07	2
MT-121S	1	18	9	49	.1	9	7	658	1.62	4	2	ND	5	105	1	2	2	39	.95	.21	37	12	.70	187	.05	2	1.03	.01	.07	2
MT-122S	1	19	12	63	.1	9	7	707	1.85	3	2	ND	5	126	1	2	2	38	1.21	.26	42	12	.55	115	.03	3	.95	.03	.06	2
MT-123S	1	25	12	31	.1	8	5	1023	1.32	2	2	ND	6	208	1	2	2	29	1.07	.14	49	9	.73	140	.02	2	.77	.01	.09	2
MT-124S	3	19	15	73	.1	5	9	2169	3.24	12	3	ND	6	314	1	2	2	19	1.88	.17	49	2	.73	184	.01	2	.56	.27	.08	2
MT-125S	1	20	10	62	.1	11	8	1242	1.99	2	2	ND	7	75	1	2	2	48	.90	.20	41	14	.58	117	.08	2	.96	.03	.08	2
MT-126S	1	62	11	85	.1	23	22	2245	5.29	68	2	ND	2	43	1	2	2	65	.72	.14	32	22	.79	162	.05	3	1.72	.03	.05	2
MT-127S	1	74	18	94	.1	15	18	2718	5.66	64	2	ND	2	21	1	2	2	61	.35	.21	39	17	1.03	185	.05	3	2.23	.01	.08	2
MT-128S	1	22	13	78	.1	9	9	922	3.00	15	2	ND	2	60	1	2	2	55	.60	.14	34	16	.59	210	.03	2	1.99	.02	.06	2
MT-129S	1	15	11	71	.1	10	13	803	2.98	12	2	ND	3	90	1	2	2	27	3.00	.22	49	4	.17	170	.01	2	.60	.02	.10	2
MT-130S	1	57	16	84	.1	21	20	2098	5.05	56	2	ND	2	53	1	2	2	57	.74	.14	38	20	.80	166	.03	3	1.76	.03	.06	2
MT-131S	1	22	12	66	.1	10	8	1145	2.16	8	2	ND	5	170	1	2	2	45	1.21	.19	39	14	.64	155	.04	3	.95	.02	.08	2
MT-132S	1	29	10	46	.1	15	11	1414	2.74	3	2	ND	5	134	1	2	2	47	1.12	.18	30	25	1.30	188	.03	2	1.50	.01	.10	2
MT-133S	1	32	11	48	.1	12	11	2698	2.43	2	2	ND	6	150	1	2	2	44	1.03	.14	33	15	1.25	275	.03	2	1.46	.01	.10	2
MT-134S	1	23	12	65	.1	13	10	1473	2.56	2	2	ND	5	102	1	2	2	48	1.01	.19	38	19	.94	185	.04	2	1.27	.01	.12	2
MT-135S	1	22	12	58	.1	10	7	1139	2.25	31	2	ND	6	142	1	2	2	40	1.13	.21	41	12	.69	175	.03	2	1.02	.02	.09	2
MT-136S	1	19	14	84	.1	12	10	1545	2.17	5	2	ND	5	72	1	2	2	46	1.04	.21	40	13	.68	219	.05	2	1.22	.01	.07	2
MT-137S	4	69	31	100	.1	9	12	2074	4.14	40	2	ND	6	41	1	2	2	23	.68	.18	51	6	.43	845	.01	3	1.05	.01	.11	2
MT-138S	1	104	15	77	.1	11	9	1053	2.14	6	2	ND	5	68	1	2	2	39	1.08	.21	38	18	.72	170	.03	2	1.08	.02	.07	2
STD A-1	1	30	39	184	2	35	13	1095	2.94	7	3	ND	2	39	1	2	2	57	.67	.10	9	80	.86	285	.09	8	2.01	.02	.18	2

VANGEOCHEM LAB LIMITED
1521 PEMBERTON AVENUE
NORTH VANCOUVER, B.C. V7P 2S3

UNION CARBIDE PROJECT # SOLUTION FROM VANGEOCHEM JOB# 82-215 FILE # 82-1233

SURATT SOIL GRID

SAMPLE #	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm
MT-139S	1	22	11	57	.1	10	9	1104	2.30	8	2	ND	5	119	1	2	2	32	1.03	.19	40	13	.67	140	.02	3	.87	.01	.09	2
MT-140S	1	22	37	100	.2	10	12	2207	3.37	10	2	ND	7	81	1	2	2	28	1.13	.20	56	8	.25	286	.01	3	.73	.01	.09	2
MT-141S	1	21	11	59	.1	14	12	1233	2.69	2	2	ND	5	91	1	2	2	45	.79	.16	38	17	.91	218	.05	2	1.25	.01	.09	2
MT-142S	1	17	8	63	.1	9	6	559	1.82	2	2	ND	3	124	1	2	2	38	.90	.19	35	14	.77	242	.03	3	1.30	.02	.08	2
MT-143S	4	18	23	84	.1	6	9	1633	3.09	10	2	ND	6	244	1	2	2	14	1.62	.16	48	3	.26	240	.01	2	1.06	.02	.05	2
MT-144S	1	23	15	95	.1	15	13	1196	5.34	11	2	ND	4	72	1	2	2	36	.83	.25	39	14	.51	155	.02	3	.90	.02	.08	2
MT-145S	1	22	11	62	.3	10	10	959	2.33	12	2	ND	5	87	1	2	2	35	1.11	.25	41	11	.60	147	.02	6	.96	.01	.08	2
MT-146S	3	62	24	104	.2	10	9	1459	3.45	21	2	ND	5	46	1	2	2	27	.64	.15	48	8	.43	196	.01	3	1.35	.01	.09	2
MT-147S	2	152	26	197	.1	5	21	2690	7.02	122	2	ND	2	12	1	2	2	38	.18	.18	33	7	1.09	245	.01	3	2.39	.01	.07	2
MT-148S	1	53	19	124	.1	6	16	1628	5.53	299	2	ND	2	10	1	2	2	37	.21	.10	16	8	1.02	171	.01	4	1.82	.01	.05	2
MT-149S	1	25	13	87	.1	9	10	1129	2.71	9	2	ND	4	68	1	2	2	46	.82	.23	39	15	.63	215	.03	2	1.53	.01	.09	2
MT-150S	2	21	14	86	.1	12	17	944	3.79	10	2	ND	4	138	1	2	2	31	3.23	.24	50	5	.37	148	.01	3	.68	.01	.13	2
MT-151S	3	23	14	114	.1	16	21	954	4.58	17	2	ND	3	112	1	2	2	20	1.29	.23	49	3	.19	105	.01	4	.56	.01	.15	2
MT-152S	4	23	13	57	.1	9	11	1302	2.80	10	2	ND	4	195	1	2	2	35	2.69	.14	29	8	.47	217	.01	2	.99	.01	.06	2
MT-153S	1	13	9	62	.1	8	7	557	2.30	2	2	ND	4	92	1	2	2	54	.80	.19	34	12	.51	179	.07	2	1.27	.02	.10	2
MT-154S	14	42	21	176	.1	10	6	379	7.07	17	2	ND	3	71	1	2	2	15	.75	.30	38	3	.15	76	.01	3	.54	.01	.11	2
MT-155S	1	38	13	222	.1	11	22	1838	5.79	33	2	ND	2	68	1	2	2	45	1.23	.11	21	9	.54	68	.01	4	1.95	.02	.09	2
MT-156S	1	60	8	63	.1	18	16	1989	4.70	3	2	ND	2	13	1	2	2	74	.41	.12	20	29	1.76	93	.01	3	2.90	.02	.08	2
MT-157S	1	48	6	69	.1	20	17	603	4.81	5	2	ND	2	58	1	2	2	50	.68	.13	11	23	.55	217	.01	5	2.09	.01	.10	2
MT-158S	1	43	7	60	.1	20	14	1051	4.00	7	2	ND	2	20	1	2	2	63	.57	.12	18	30	1.42	186	.01	3	1.97	.01	.07	2
STD	20	165	38	81	2.6	877	12	591	3.45	11	2	ND	3	26	1	5	2	46	1.65	.09	6	76	.67	180	.04	18	.82	.04	.20	2
MT-159S	1	10	7	64	.1	8	8	934	2.77	3	2	ND	2	22	1	2	2	32	.60	.07	18	12	.47	125	.01	3	.89	.01	.11	2
MT-160S	1	60	5	67	.1	36	13	1764	3.97	6	2	ND	2	37	1	2	2	73	1.68	.10	15	58	.59	127	.01	4	1.04	.02	.09	2
MT-161S	1	13	7	88	.1	10	11	1175	3.56	2	2	ND	2	23	1	2	2	51	.64	.13	23	17	.77	223	.02	4	1.37	.01	.11	2
MT-162S	1	29	6	119	.1	8	14	1901	4.15	3	2	ND	3	20	1	2	2	60	.62	.11	21	12	1.35	197	.01	3	1.97	.01	.09	2
MT-163S	1	18	10	223	.1	9	8	807	2.32	2	2	ND	5	52	1	2	2	52	.71	.17	33	16	.47	193	.09	2	1.62	.01	.09	2
MT-164S	1	93	22	154	.1	7	13	2246	5.12	19	2	ND	2	12	1	2	2	44	.36	.15	31	13	1.15	159	.01	3	2.06	.01	.05	2
MT-165S	1	36	7	101	.1	11	16	2375	4.22	2	2	ND	2	11	1	2	2	86	.36	.06	14	25	2.17	114	.01	3	2.43	.01	.05	2
MT-166S	1	63	15	86	.1	5	11	2267	3.43	8	2	ND	2	18	1	2	2	34	.64	.16	24	9	.71	143	.01	4	1.65	.01	.06	2
MT-167S	1	15	6	76	.1	3	13	1321	4.16	2	2	ND	2	46	1	2	2	79	2.51	.07	13	4	1.03	80	.01	3	1.49	.01	.12	2
MT-168S	1	13	8	84	.1	5	8	1312	2.96	7	2	ND	3	46	1	2	2	29	1.17	.12	30	6	.67	210	.01	3	1.07	.01	.09	2
MT-169S	1	28	7	58	.1	10	10	995	3.27	7	2	ND	2	46	1	2	2	53	.72	.12	25	19	.82	284	.01	3	1.48	.01	.12	2
MT-170S	1	20	9	69	.1	7	7	1475	2.69	3	2	ND	3	101	1	2	2	38	.83	.11	29	14	.48	376	.01	3	1.10	.02	.10	2
MT-171S	1	16	11	136	.1	6	19	2033	2.60	5	2	ND	12	213	1	2	2	21	1.34	.28	67	3	.32	239	.01	3	.96	.01	.06	2
MT-172S	1	18	14	44	.1	6	7	608	2.21	4	2	ND	3	27	1	2	2	27	.67	.07	32	11	1.01	252	.01	4	1.40	.01	.10	2
MT-173S	1	48	8	63	.1	18	16	960	4.54	5	2	ND	2	18	1	2	2	94	.78	.09	16	34	2.13	148	.02	4	2.68	.02	.10	2
MT-174S	1	55	15	99	.1	32	17	1348	3.99	2	2	ND	2	10	1	2	2	57	.46	.10	23	81	1.90	134	.01	4	2.44	.01	.08	2
MT-175S	1	2	27	15	.1	2	1	874	.55	2	2	ND	5	613	1	2	2	4	1.08	.04	10	4	.25	784	.01	2	1.04	.30	.19	2
MT-176S	1	1	26	13	.1	1	1	481	.22	2	2	ND	5	548	1	2	2	2	1.20	.03	46	2	.18	710	.01	2	.95	.47	.14	2
MT-177S	3	12	20	211	.2	4	9	1322	1.41	14	2	ND	4	365	2	2	2	7	1.58	.13	38	2	.21	829	.01	2	1.06	.03	.16	2
STD A-1	1	30	38	174	3	33	12	1024	2.75	8	2	ND	2	36	1	2	2	54	.63	.10	8	75	.82	275	.09	8	1.96	.02	.18	2

VANGEOCHEM LAB LIMITED
1521 PEMBERTON AVENUE
NORTH VANCOUVER, B.C. V7P 2S3

UNION CARBIDE PROJECT # SOLUTION FROM VANGEOCHEM JOB# 82-215 FILE # 82-1233

SURATT SOIL GRID

SAMPLE #	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm
MT-178S	1	1	14	46		1	1	594	.22	3	2	ND	4	464	1	2	2	2	1.37	.02	32	2	.16	547	.01	2	.88	.63	.11	2
MT-179S	3	42	19	123		4	10	1517	4.03	95	2	ND	2	26	1	2	3	26	.37	.16	10	6	.72	156	.01	4	1.69	.01	.08	2
MT-180S	1	26	10	96		7	10	1333	2.57	12	2	ND	2	29	1	2	2	31	.50	.13	18	8	.84	193	.01	3	2.00	.01	.11	2
MT-181S	1	20	6	50		11	9	644	2.24	2	2	ND	4	93	1	2	2	40	.86	.13	22	11	.85	130	.06	4	1.32	.06	.14	2
MT-182S	1	34	8	69		10	10	1023	2.65	7	2	ND	4	54	1	2	2	43	.78	.14	22	11	.81	191	.05	4	1.53	.04	.11	2
MT-183S	2	95	20	127		6	13	3188	4.68	41	2	ND	2	12	1	2	2	33	.31	.14	30	7	.94	232	.01	4	2.12	.01	.10	2
MT-184S	1	34	12	88		10	11	1308	3.58	137	2	ND	2	20	1	2	2	27	.27	.17	11	13	.61	147	.01	5	1.75	.01	.11	2
MT-185S	1	107	25	173	1	6	15	2766	5.20	67	2	ND	2	11	1	2	2	38	.34	.14	22	10	1.18	260	.01	8	2.22	.01	.09	2
MT-186S	1	31	20	93		9	12	917	4.73	29	2	ND	4	48	1	2	2	42	.63	.19	32	10	.53	396	.01	3	1.62	.01	.10	2
MT-187S	2	46	20	103		10	12	1991	3.42	29	2	ND	4	44	1	2	2	28	.98	.12	26	8	.57	374	.01	4	1.31	.01	.11	2
MT-188S	1	21	7	54		10	10	446	2.34	2	2	ND	5	72	1	2	2	40	1.04	.13	25	12	.94	152	.04	6	1.37	.05	.14	2
MT-189S	1	5	11	65		2	1	488	1.08	2	2	ND	2	232	1	2	2	5	.95	.08	18	4	.45	507	.01	2	1.70	.02	.22	2
MT-190S	1	11	15	64		4	6	1011	1.95	2	2	ND	4	132	1	2	2	18	.95	.15	41	3	.35	351	.01	2	2.23	.01	.13	2
MT-191S	1	1	11	23		2	1	109	.54	3	2	ND	5	105	1	2	2	2	.30	.01	30	6	.27	273	.01	3	.83	.04	.23	2
MT-192S	1	38	7	81		14	14	1171	3.04	12	2	ND	2	37	1	2	2	58	.48	.12	17	15	.73	244	.01	4	1.59	.02	.11	2
MT-193S	1	2	4	27		3	1	695	.88	2	2	ND	2	163	1	2	2	6	.96	.10	22	2	.26	172	.01	2	1.03	.01	.08	2
MT-194S	1	28	8	111		11	16	1600	2.76	6	2	ND	2	15	1	2	2	38	.63	.07	11	10	.72	390	.01	5	2.10	.01	.13	2
MT-195S	1	18	13	53		7	8	862	1.74	2	2	ND	4	85	1	2	2	27	1.04	.17	32	11	.39	209	.01	2	1.89	.01	.12	2
MT-196S	1	12	16	62		7	6	966	1.98	2	2	ND	5	190	1	2	2	24	1.07	.16	41	13	.47	267	.01	2	1.89	.01	.12	2
MT-197S	1	16	16	70		8	9	870	2.89	7	2	ND	4	88	1	2	2	35	.91	.19	35	8	.44	201	.01	3	2.10	.01	.12	2
STD	21	164	36	83	3.2	566	12	572	2.62	10	2	ND	3	33	1	2	2	30	1.74	.09	5	62	.64	409	.03	20	.96	.05	.24	2
MT-198S	1	18	12	69		13	13	702	2.72	6	2	ND	4	105	1	2	2	46	.93	.16	34	9	.41	86	.01	3	1.23	.02	.04	2
MT-199S	1	21	14	80		10	8	599	2.75	18	2	ND	4	54	1	2	2	40	.78	.18	29	11	.55	141	.01	5	1.47	.02	.11	2
MT-200S	1	24	13	74		14	10	980	2.45	11	2	ND	4	55	1	2	2	35	.78	.17	28	13	.68	124	.01	4	1.49	.01	.11	2
MT-201S	2	80	19	128		15	14	2990	4.98	57	2	ND	2	14	1	2	2	33	.28	.14	22	11	.99	169	.01	4	1.98	.01	.10	2
MT-202S	2	89	23	129		17	13	2975	4.69	43	2	ND	2	12	1	2	2	30	.30	.13	33	11	.89	239	.01	4	2.03	.01	.10	2
STD A-1	1	31	37	177		34	12	1021	2.80	9	2	ND	2	36	1	2	2	57	.66	.10	7	77	.80	282	.08	8	1.98	.02	.21	2

APPENDIX 4

STREAM SEDIMENT GEOCHEMISTRY - ANALYTIC DATA

TROITSA PEAK PROPERTY.

STREAM SEDIMENT SAMPLES - GEOCHEMICAL ANALYSES.

Sample Marking	Hg ppb	Au ppb
BH 29D	15	15
23D	10	nd
PS 2D	30	10
3	30	5
4	10	10
5	25	5
6	10	5
7	10	nd
TR 9D	10	- -
10	15	- -
12	10	- -
18	25	- -
TR 20D	10	- -
TB 4	95	- -
BH 30D	65	20
72	55	25
73	60	15
74	35	20
75	40	25
76	35	nd
78	35	nd
93	40	15
94	45	15
99	30	20
100	25	nd
TB 12	50	30
13	40	5
24	110	15
26	40	nd
28	15	nd
TR 45D	nd	10
53	40	nd
66	25	10
67	30	20
72	nd	10
CS 1D	20	nd
2	140	5
TA#1 1D	25	10
TA 8D	30	nd

TROITSA PEAK PROPERTY

STREAM SEDIMENT SAMPLES - ICP GEOCHEMICAL ANALYSES

Sample Marking	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm
BH 29D	1	26	16	76	.1	8	10	1096	2.35	4	2	ND	2	27	1	2	2	44	.36	.10	12	4	.52	165	.04	25	1.58	.03	.06	2
PS 2D	1	57	8	59	.1	11	13	931	2.93	7	2	ND	2	69	1	2	2	47	1.44	.11	11	4	.90	233	.01	21	1.52	.03	.08	2
PS 3D	1	65	10	62	.1	14	14	1163	3.39	8	2	ND	2	51	1	2	2	43	1.46	.11	13	7	.79	313	.01	17	1.60	.02	.10	2
PS 4D	1	44	5	57	.1	8	14	1107	2.74	8	2	ND	2	89	1	2	2	40	.82	.08	3	2	.38	331	.01	17	.62	.01	.07	2
PS 5D	1	27	7	62	.1	8	9	868	2.11	5	2	ND	3	67	1	2	2	27	1.00	.12	15	3	.58	201	.01	22	.87	.02	.08	2
PS 6D	1	20	49	97	.1	7	8	694	1.89	5	2	ND	2	33	1	2	2	39	.47	.14	13	4	.48	155	.05	27	1.01	.02	.05	2
PS 7D	1	14	7	98	.1	5	13	1302	1.96	3	2	ND	2	47	1	2	2	18	.37	.10	6	1	.46	225	.01	19	.94	.01	.04	2
TR 9D	1	54	8	36	.1	81	32	1000	4.46	4	2	ND	2	122	1	2	2	77	1.81	.10	6	27	2.54	200	.02	17	2.30	.13	.06	2
TR 10D	1	113	5	55	.1	9	20	1176	4.46	4	2	ND	2	52	1	2	2	68	1.24	.10	12	1	1.09	125	.01	9	2.00	.03	.04	2
TR 12D	1	37	6	52	.1	16	15	822	2.53	3	2	ND	2	26	1	2	2	33	.48	.09	13	8	1.04	154	.01	13	1.37	.01	.06	2
TR 18D	1	13	12	60	.1	7	8	822	1.81	5	2	ND	2	62	1	2	2	38	.54	.09	11	4	.48	154	.03	17	1.31	.03	.05	2
TR 20D	1	11	6	61	.1	5	17	1806	1.66	4	2	ND	2	20	1	2	2	35	.22	.07	5	1	.32	165	.01	17	.84	.01	.04	2
BH 30D	2	22	148	227	.8	9	10	1061	3.05	23	2	ND	2	34	2	3	2	56	.57	.15	27	9	.60	158	.04	7	1.44	.02	.08	2
BH 72D	1	31	75	127	.3	7	10	1606	3.23	68	2	ND	2	13	1	4	2	55	.24	.08	15	8	.47	322	.02	14	1.31	.01	.08	2
BH 73D	2	34	51	208	.2	7	11	1981	3.67	72	3	ND	2	10	1	3	2	55	.23	.07	11	8	.54	263	.02	15	1.17	.02	.09	2
BH 74D	2	35	33	197	.2	7	12	1832	4.39	123	2	ND	2	8	1	6	2	65	.20	.07	9	7	.56	251	.01	13	1.41	.02	.14	2
BH 75D	2	40	34	131	.4	6	11	1657	3.79	279	2	ND	3	7	1	6	2	73	.17	.05	16	5	.51	170	.01	7	1.25	.02	.12	2
BH 76D	1	25	26	102	.1	8	10	1169	3.28	46	2	ND	2	15	1	2	2	71	.29	.07	12	11	.57	219	.04	14	1.43	.02	.06	2
BH 92D	2	132	27	286	.3	10	27	3628	7.31	368	3	ND	2	14	1	11	2	169	.35	.06	10	5	1.42	120	.03	14	2.36	.02	.09	2
BH 93D	2	104	30	281	.2	10	22	3219	6.91	236	4	ND	2	14	1	8	2	142	.32	.07	10	7	1.31	119	.03	12	2.17	.02	.12	2
BH 94D	2	87	23	277	.1	11	21	3037	6.98	183	3	ND	2	14	1	8	2	152	.34	.07	9	7	1.50	115	.02	3	2.43	.02	.12	2
BH 99D	5	42	32	215	.2	9	12	2188	5.08	59	2	ND	2	11	1	3	2	32	.21	.07	10	3	.17	135	.01	14	.61	.01	.10	2
BH 100D	5	25	30	212	.2	8	10	1560	4.84	73	2	ND	2	11	1	3	2	38	.27	.07	11	2	.29	128	.01	10	.88	.01	.09	2
T.B. 4D	2	31	12	69	.1	12	11	816	3.68	18	2	ND	2	25	1	2	2	52	.43	.08	11	14	.65	125	.02	5	1.69	.02	.05	2
T.B.12D	3	38	9	75	.2	11	13	998	3.74	17	2	ND	2	37	1	2	2	57	.55	.10	14	8	.78	243	.01	6	1.50	.02	.08	2
T.B.13D	1	41	8	65	.2	14	13	856	3.19	13	2	ND	2	53	1	2	2	58	1.31	.12	17	11	.72	172	.02	18	1.16	.02	.09	2
T.B.24D	1	15	14	68	.2	11	10	778	2.79	14	2	ND	2	100	1	2	2	61	.88	.14	26	6	.73	174	.02	9	1.77	.02	.05	2
T.B.26D	1	10	11	63	.1	8	6	416	2.53	11	2	ND	2	57	1	2	2	64	.71	.18	23	7	.44	159	.06	18	.81	.03	.07	2
T.B.28D	1	18	8	53	.2	4	7	592	2.62	8	2	ND	2	17	1	2	2	42	.39	.08	7	5	.77	49	.05	21	1.00	.02	.09	2
TR 45D	4	26	58	195	1.9	86	27	632	17.61	314	5	ND	3	121	1	48	2	126	.20	.33	48	9	.02	243	.01	2	.78	.01	.02	2
TR 53D	1	160	35	127	.7	166	40	1072	2.98	47	4	ND	2	57	1	4	2	73	.06	.04	31	138	.01	200	.01	2	.60	.01	.01	2
TR 66D	1	152	137	157	.9	29	12	67	1.05	503	5	ND	2	49	2	3	2	50	.05	.03	24	116	.01	220	.01	2	.40	.01	.04	2
TR 67D	1	204	41	115	.2	70	29	468	8.80	22	6	ND	2	79	2	10	2	80	.05	.04	10	109	.02	275	.01	2	.93	.01	.01	2
TR 72D	2	17	26	268	1.9	117	46	1158	11.46	29	8	ND	2	230	1	6	2	131	1.73	.72	59	50	.06	308	.01	2	2.04	.01	.02	2
CS 1D	1	34	12	86	.3	10	11	882	2.86	6	2	ND	2	45	1	2	2	46	.99	.13	13	10	.69	243	.02	23	1.14	.02	.07	2
CS 2D	1	32	19	136	.4	11	12	1002	3.63	15	2	ND	2	45	1	2	2	77	.83	.16	14	16	.63	331	.08	28	1.08	.02	.07	2
BH 78D	1	46	10	107	.1	27	19	1466	5.59	164	2	ND	2	17	1	4	2	100	.36	.06	7	47	1.76	261	.01	12	2.61	.03	.11	2

APPENDIX 5

ASSAY DATA

VGC

1521 PEMBERTON AVE.,
NORTH VANCOUVER, B.C.,
CANADA V7P 2S3

TELEPHONE: 988-2172
AREA CODE: 604

Specialising in Trace Elements Analyses

Certificate of Analyses

–IN ACCOUNT WITH–
Union Carbide Exploration
Suite 930 - 800 W. Pender St.
Vancouver, B.C. V6C 2V6
Attention:

Report No: 82-93-020 Page 1 of 1
Samples Arrived: August 11, 1982
Report Completed: August 16, 1982
For Project: 107
Analyst: Assayer: B.C.
Invoice #6894 Job# 82-117

Sample Marking	Au oz./ton					
CS - 3R	.114	3 pkts				
WT - 44	.006					

REMARKS:

One copy sent to Houston, B.C.

Signed: _____
Registered Provincial Assayer

% Mo x 1.6683 = % MoS_2 1 Troy oz./ton = 34.28 ppm 1 ppm = 0.0001% nd = none detected ppm = parts per million

All values are believed to be correct to the best knowledge of the analyst based on the method and instruments used.

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Suite 930 - 800 W. Pender St.
Vancouver, B.C. V6C 2V6
Attention:

Report No: 82-93-035 Page 1 of 1
Samples Arrived August 27, 1982
Report Completed: Sept. 3, 1982
For Project: 107 Job No.
Analyst: Assayer: D.Chiu Invoice No. 6956

FIRE ASSAY

Sample Marking	Ag oz./ton	Au oz./ton				
PH 66R	1.19	.008				
PS 58R	.46	.012				
TB 64R	.82	.006				
TB 65R	.03	< .005				
PS 3R	.10	.028				
PS 22R	11.24	.006				
PS 23R	8.49	.006				
PS 24R	.64	< .005				
PS 29R	.18	.026				
PS 30R	.08	.018				
TR 44R	1.78	.024				
TA 9R	.49	.018				
TA 10R	.51	.008				
BH 148R	.62	.012				
PH 76R	.82	.016				
PH 81R	.54	.006				
PS 71R	21.92	.058				
PS 72R	.39	.014				
PS 73R	.05	< .005				
PS 74R	.03	.010				
~~PS~~ TB 88R	42.22	.052				
TB 89R1	2.98	.054				
PH 65R	1.53	.008				

REMARKS:

Registered Provincial Assayer

Signed: _____

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CANADA V7P 2S3

TELEPHONE: 986-5211
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–IN ACCOUNT WITH–

Union Carbide Exploration
Suite 930 - 800 W. Pender ST.
Vancouver, B.C. V6C 2V6
Attention: FIRE ASSAYS

Report No: 82-93-041 Page 1 of 1
Samples Arrived: September 9, 1982
Report Completed: September 16, 1982
For Project: 107 Job No. 82-172,166
Analyst: Assyer: D. Chiu Invoice No. 6984

Sample Marking	Ag oz/ton	Au oz/ton				
SP # 2R	3.55	0.114				
# 3R	0.20	0.028				
~~SP # 9R~~ W/S 9R	1.35	0.016				
W.S. 150R	4.35	< 0.005				
202R	0.67	0.056				
203R	0.45	0.018				
213R	0.24	0.020				
229R	0.37	0.136				
W.S. 233R	0.75	0.010				

REMARKS:

Registered Provincial Assayer

Signed: _____

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All values are believed to be correct to the best knowledge of the analyst based on the method and instruments used.

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–IN ACCOUNT WITH–

Tom Richards
Box 44, R.R. #1
Kispiox Valley, Hazelton, B.C. V0J 1Y0

Attention:

FIRE VALLEY

Report No: 82-93-042 Page 1 of 1
Samples Arrived: Sept. 9, 1982
Report Completed: Sept. 16, 1982
For Project: Job No. 82-154
Analyst: Assayer: D. Chiu Invoice No. 6985

Sample Marking	Ag oz/ton	Au oz/ton				
BH - 176R	0.10	< 0.005				
178R	0.04	0.008				
179R	0.05	< 0.005				
BH 192R	0.78	0.012				
BP - 194R	0.46	0.006				
PH - 116R	0.26	< 0.005				
PH - 140R	0.62	0.006				
PH - 141R	0.57	0.006				
PS - 78R	2.26	0.008				
TB - 101R	0.26	< 0.005				
121R	0.82	< 0.005				
TB - 125R	0.15	< 0.005				
135R	0.08	0.018				
138R	0.44	0.032				
142R	0.78	0.036				
143R	0.33	0.014				
TB - 144R	0.10	0.042				
TR - 118R	0.69	0.005				
TR - 119R	1.72	0.030				

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REMARKS:

Registered Provincial Assayer

Signed:

CANADA V7P 2S3

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-IN ACCOUNT WITH-

Tom Richards
Box 44, R.R. #1
Kispiox Valley
Attention: Hazelton, B.C. V0J 1Y0
FIRE ASSAYS

Report No: 82-93-043 Page 1 of 1
Samples Arrived: Sept. 9, 1982
Report Completed: Sept. 16, 1982
For Project: Job No. 82-173
Analyst: Assayer: D. Chiu Invoice No. 6990

Sample Marking	Ag oz/ton	Au oz/ton				
PS 102R	65.14	< 0.005				
103R	78.64	0.021				
104R	0.98	< 0.005				
105R	1.97	< 0.005				
109R	0.33	1.366				
112R	0.08	0.028				
114R	0.28	0.028				
PS 117R	0.04	0.008				

REMARKS:

Registered Provincial Assayer
Signed:

% Mo x 1.6683 = % MoS_2 1 Troy oz./ton = 34.28 ppm 1 ppm = 0.0001% nd = none detected ppm = parts per

All values are believed to be correct to the best knowledge of the analyst based on the method and instruments used.

CANADA V7P 2S3

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-IN ACCOUNT WITH-
Tom Richards
Box 44, R.R. #1
Kispiox Valley
Attention: Hazelton. B.C. V0J 1Y0
FIRE ASSAYS

Report No: 82-93-047 Page 1 of 1
Samples Arrived: Sept. 15, 1982
Report Completed: Sept. 21, 1982
For Project:
Analyst: Assayer: D. Chiu
Job No. 82-180
Invoice No. 7002

Sample Marking	Ag oz/ton	Au oz/ton
PS 128	3.30	0.012
129	292.90	1.340
130	2.11	0.022
134	0.41	0.026
140	0.83	0.008
141	0.68	0.005
147	6.27	0.068
PS 148	20.03	0.016
TB 172	0.81	0.012
TB 185	0.58	0.494
TR 125R	0.13	0.014
TR 132R	3.63	0.044
133	0.21	0.034
134	0.31	0.014
135	0.12	0.028
136	1.19	0.010
140	0.07	< 0.005
141	48.27	0.070
142	0.51	< 0.005
143	63.15	0.328
144	0.04	< 0.005
145	0.81	0.014
TR 146R	1.31	0.020

Assays: Carbonate Bill

REMARKS

Registered Provincial Assayer

Signed: _____

* Mo x 1.6683 = MoS_2 1 Troy oz./ton = 34.28 ppm 1 ppm = 0.0001% nd = none detected ppm = parts per million

All values are believed to be correct to the best knowledge of the analyst based on the method and instruments used

VGC

VANGEOCHEM LAB LTD.
1521 PEMBERTON AVE.,
NORTH VANCOUVER, B.C.,
CANADA V7P 2S3

TELEPHONE: 986-5211
AREA CODE: 604

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–IN ACCOUNT WITH–

Union Carbide Exploration Inc.
Suite 930, 800 W. Pender St.
Vancouver, B.C. V6C 2V6

Attention:

Fire Assays

Report No: 82-93-057 Page 1 of 1
Samples Arrived: Sept. 24, 1982
Report Completed: Sept. 28, 1982
For Project: 107 Job No. 82-199,98,97
Analyst: Assayer: D. Chiu Invoice No. 7024,

Sample Marking		Ag oz/ton	Au oz/ton				
TB	201	5.11	0.008				
	202	2.64	0.006				
TB	203	0.48	0.014				
CS	21	1.02	0.572				
CS	22	0.81	0.386				
SP	4R	3.09	0.112				
SP	4R						
WS	300R	0.69	0.048				
	301	0.10	0.016				
	302	0.11	0.024				
	303	0.08	0.014				
	304	0.05	0.010				
	305	0.12	0.018				
	312	0.24	0.006				
	313	0.41	0.012				
WS	314	0.63	0.018				

REMARKS:

Registered Provincial Assayer

Signed: _____

% Mo x 1.6683 = % MoS_2 1 Troy oz./ton = 34.28 ppm 1 ppm = 0.0001% nd = none detected ppm = parts per million

All values are believed to be correct to the best knowledge of the analyst based on the method and instruments used.

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Suite 930 - 800 W. Pender St.
Vancouver, B.C. V6C 2V6
Attention:

Report No: 82-03-060 Page 1 of 1
Samples Arrived:
Report Completed: Nov. 3, 1982
For Project: Nigel Cawthorn Job No.
Analyst: D. Chiu Invoice No.

Sample Marking	Fire assay A Au oz/ton	Fire assay B Au oz/ton
CS 7 R	-	0.038
8	0.025	0.042
9	0.045	0.060
CS10 R	0.020	0.036
CS16A	-	< 0.005
PS 110	-	0.006
PS 108 R	0.012	0.013
129	1.340	1.228
130	0.022	0.013
137	0.063	0.064
140 R	0.015	0.016
PS 103 ?	0.021	0.012
TR 125 R	0.014	0.034
132	0.041	0.046
133	0.034	0.040
134	0.014	0.005
135	0.033	0.036
136	0.010	0.006
141	0.070	0.066
142	0.005	0.005
143	0.329	0.282
144	0.005	0.005
145	0.014	0.030
TR 146 ?	0.020	0.013
TR 54 ?	-	0.012
WT 212	-	< 0.005
WT 214	-	0.016
TB 65 R	0.005	0.014
172	0.012	< 0.005
175	0.434	0.486
TB 125 R	0.005	< 0.005
PH 76 ?	0.016	0.013
WS 300 R	0.048	0.040
WS 305 R	0.013	0.026
BH 170 R	0.005	0.008
WS 9 R	0.016	0.005
TB 201	0.008	0.010
TB 202	0.006	0.008

One copy sent to Tom Richards.

VGC

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NORTH VANCOUVER, B.C.,
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-IN ACCOUNT WITH-

Union Carbide Exploration
Suite 930-800 West Pender ST.
Vancouver, B.C. V6C 2V6

Attention:

Report No: 82-93-061 Page 1 of 1
Samples Arrived:
Report Completed: Nov. 3, 1982
For Project: Nigel Cawthorn Job No.
Analyst: D. Chiu Invoice No.

Sample Marking	Fire Assay Au oz/ton
TR 102 R	< 0.005
105 R	< 0.005
107 R1	< 0.005
107 R2	< 0.005
110 R	< 0.005
112 R1	< 0.005
112 R2	< 0.005
112 R3	< 0.005
112 R4	< 0.005
112 R5	< 0.005
113 R	< 0.005
114 R	< 0.005
120 R	< 0.005
121 R	< 0.005
122 R	< 0.005
123 R	< 0.005
118 R	< 0.005
TR 119 R	< 0.005

REMARKS:

One copy sent to Tom Richards.

Signed:

% Mo x 1.6683 = % MoS_2 1 Troy oz./ton = 34.28 ppm 1 ppm = 0.00 ... ppb = parts per ...

All values are believed to be correct to the best knowledge of the analyst ...

Claim boundary (approximate)

Additional Claims Staked September, 1982
Chain line up to September, 1982

Bell Fault

Bell Creek

Troitsa Creek

Blitz Creek

Old Shovel Creek

Whitesail Fault Zone

Discovery Fault

Cummins Creek

Troitsa Peak 2085 m

Claim boundary (approximate)

53°35'

LEGEND

UPPER CRETACEOUS (KASALKA GROUP) or EOCENE (OOTSA LAKE GROUP)

9 OLD SHOVEL VOLCANICS-FELDSPAR-PORPHYRITIC INTERMEDIATE FLOWS AND FLOW BRECCIAS

8 TROITSA COMPLEX-FELDSPAR-PORPHYRITIC INTERMEDIATE INTRUSIVES AND ASSOCIATED EXTRUSIVES, INCLUDING THE FOLLOWING PHASES:

- GREY-GREEN INTRUSIVE WITH LARGE, BLADED FELDSPAR PHENOCRYSTS
- BLUE-GREY HYPABYSSAL INTRUSIVES, DIKES AND FLOWS WITH FINE GLASSY FELDSPAR PHENOCRYSTS
- CHAOTIC HETEROLITHIC BRECCIA AS DIATREMIC INTRUSIONS OR BEDDED DEPOSITS
- WELDED ASH AND LAPILLI TUFF
- PINK FELDSPAR-BIOTITE PORPHYRY GRANITE

UPPER JURASSIC (ASHMAN FORMATION)

7 GREEN SEDIMENTS-SHALLOW MARINE FOSSILIFEROUS SANDSTONES, CONGLOMERATES, SHALES

MIDDLE JURASSIC (HAZELTON GROUP-WHITESAIL or SMITHERS FORMATION)

6 BELL VOLCANICLASTICS-DOMINANTLY MARINE, WELL-BEDDED GREYWACKES, SANDSTONES, TUFFS AND CHERTS

LOWER JURASSIC (TELKWA FORMATION of HAZELTON GROUP)

5 CUMMINS CREEK TUFFS-DOMINANTLY MAROON CONTINENTAL LAPILLI AND ASH TUFFS

4 PINK APLITIC DIKES, INCLUDING MINOR EXTRUSIVE FELSIC TUFFS

3 BUFF QUARTZ-EYE PORPHYRITIC FELSIC DIKES

2 FELDSPAR-PORPHYRITIC DIORITE DIKES AND PLUGS

1 PINK GRANITIC INTRUSIONS

NOTE: SHOWINGS, QUARTZ VEINS AND SULPHIDE MINERALIZATION ARE NOT SHOWN ON THIS MAP

SYMBOLS

- SNOW PATCHES AND ICEFIELDS
- OUTCROP AREAS
- X SMALL OUTCROPS
- LIMIT OF 1982 MAPPING
- FAULT
- GEOLOGICAL CONTACT
- 50 BEDDING ATTITUDE
- P PROPYLITIC ALTERATION (CHLORITE, PYRITE, CARBONATE, CLAYS)
- A ARGILLIC ALTERATION (KAOLINITE, SERICITE, CLAYS)
- TIMBERLINE
- CLAIM LINE-ESTABLISHED BY PACE AND COMPASS

GEOLOGICAL BRANCH
ASSESSMENT REPORT

10,875

SCALE IN METRES
500 400 300 200 100 0 500 1000

UNION CARBIDE UNION CARBIDE EXPLORATION CORPORATION

TROITSA PEAK CLAIM GROUP
GEOLOGY
OMINECA MINING DIVISION

COMPILED BY H. Jamieson		MAP NO: 5
DRAFTED BY K. Gibson	DATE: October / 1982	SCALE: 1:10,000
DISPOSITION:		N.T.S. 93E/11E
PROJECT NO:	REPORT NO:	

GEOLOGICAL BRANCH
ASSESSMENT REPORT

10,875

0 100 m.

LEGEND

- Soil sample location
- Channel sample location - showing sample numbers and sample lengths
- Stream
- Contour
- Quartz vein

UNION CARBIDE EXPLORATION CORPORATION

CUMMINS CREEK LOCALITY
SAMPLE LOCATIONS

COMPILED BY: n.c.		MAP NO. 6
DRAFTED BY: n.c.	DATE: 10/11/82	SCALE: 1:2,000
DISPOSITION:		N.T.S. 93E/11E
PROJECT NO:	REPORT NO:	

GEOLOGICAL BRANCH
ASSESSMENT REPORT

10,875

ANALYTICAL DATA

ppb Au
ppm Ag
ppb Hg

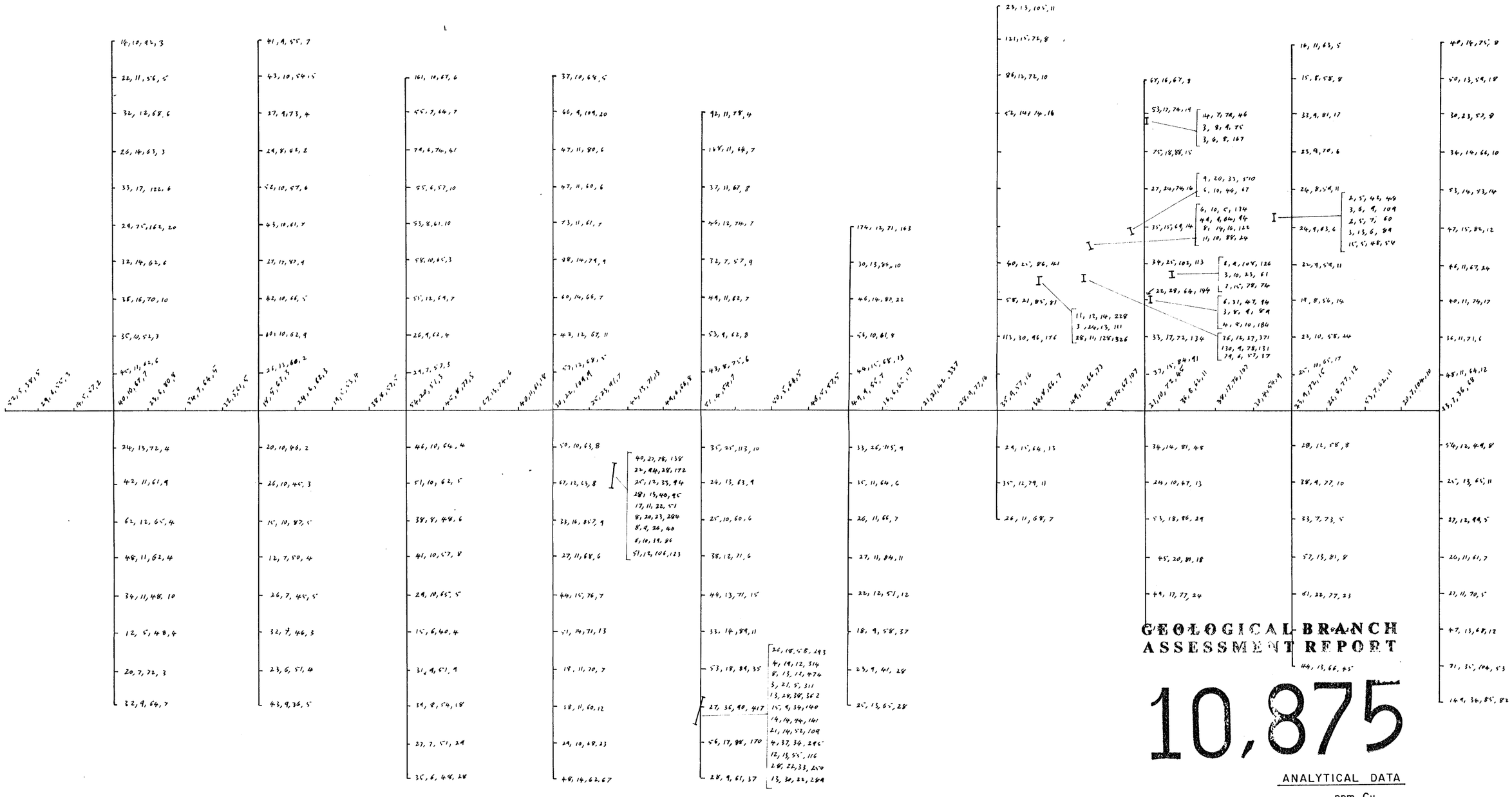
0 100 m.

UNION CARBIDE EXPLORATION CORPORATION

CUMMINS CREEK

ANALYTICAL RESULTS - Au, Ag, Hg

COMPILED BY n.c.			MAP NO. 7
DRAFTED BY n.c.	DATE 10/11/82		SCALE 1:2,000
DISPOSITION			N.T.S. 93 E/11E
PROJECT NO.	REPORT NO.		

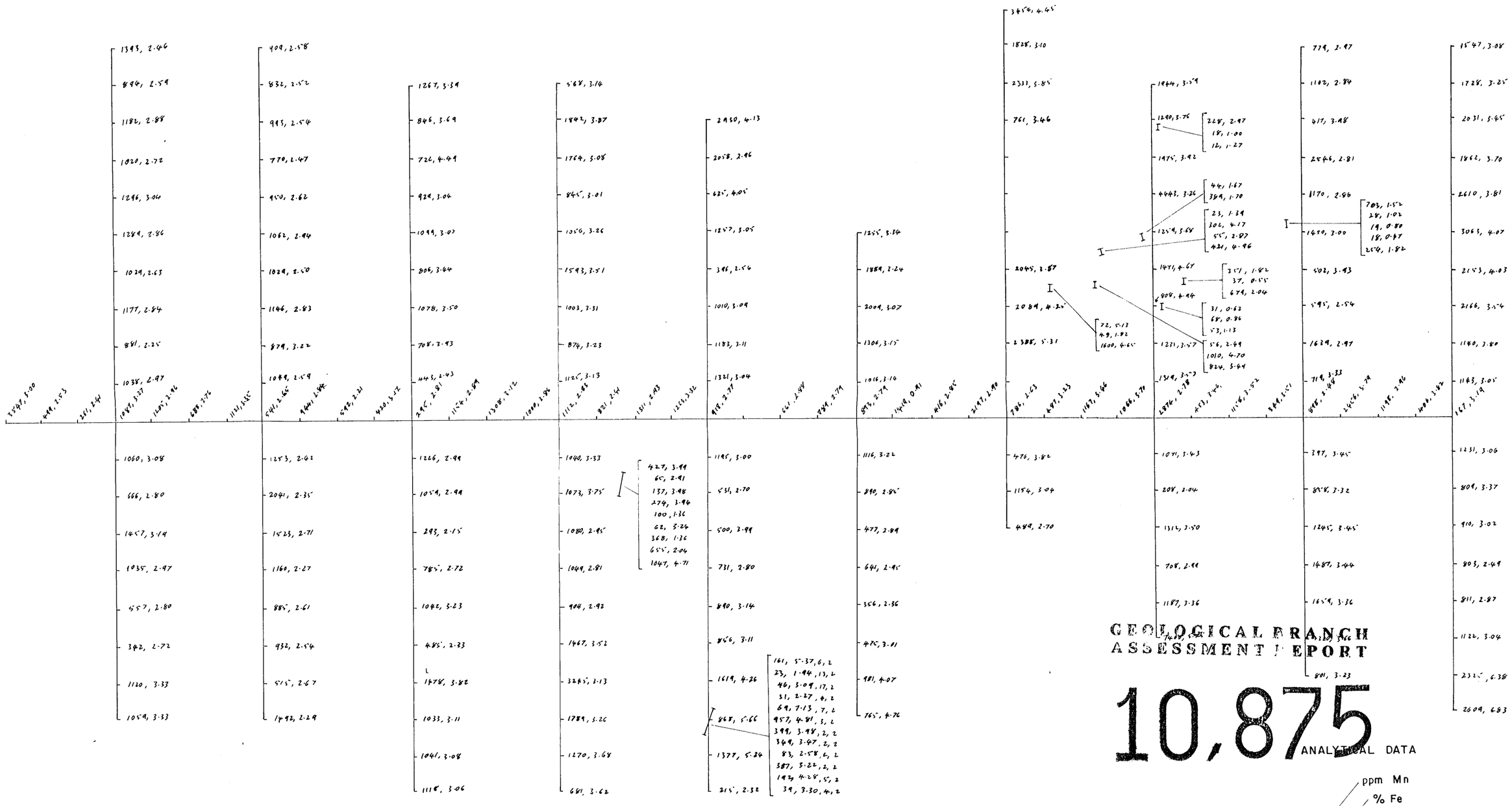


UNION CARBIDE — UNION CARBIDE EXPLORATION CORPORATION

CUMMINS CREEK

ANALYTICAL RESULTS - Cu, Pb, Zn, As.

COMPILED BY: n.c.		MAP NO. 8
DRAFTED BY: n.c.	DATE 10/11/82	SCALE 1:2,000
DISPOSITION		NTS 93E/11E
PROJECT NO.	REPORT NO.	



GEOLOGICAL BRANCH
ASSESSMENT REPORT

10,875

ANALYTICAL DATA

UNION CARBIDE — UNION CARBIDE EXPLORATION CORPORATION

CUMMINS CREEK

ANALYTICAL RESULTS - Mn, Fe, Sb, Bi

COMPILED BY: n.c.		MAP NO.	9
DRAFTED BY: n.c.	DATE: 10/11/82	SCALE:	1:2,000
DISPOSITION:		N.T.S.	93E/11E
PROJECT NO:	REPORT NO:		

GEOLOGICAL BRANCH
ASSESSMENT REPORT

10,875

Talus

Moraine

Moraine Lake

PS Claim post - 0 N, 2 W
Whitesail Claim post - 0S, 2W

Cummins Creek Tuffs

Talus

Chaotic Breccia

Feldspar Porphyry Dacite

Icefield

WS series samples — SP series samples

0 100 m.

LEGEND

- Sample location & number
  'R' indicates rock sample
  'S' indicates soil sample
- Channel sample location - showing sample number and sample length.
- Stream
- Contour (20m. interval)
- Quartz vein
- Geologic contact (defined)
  " " (assumed)

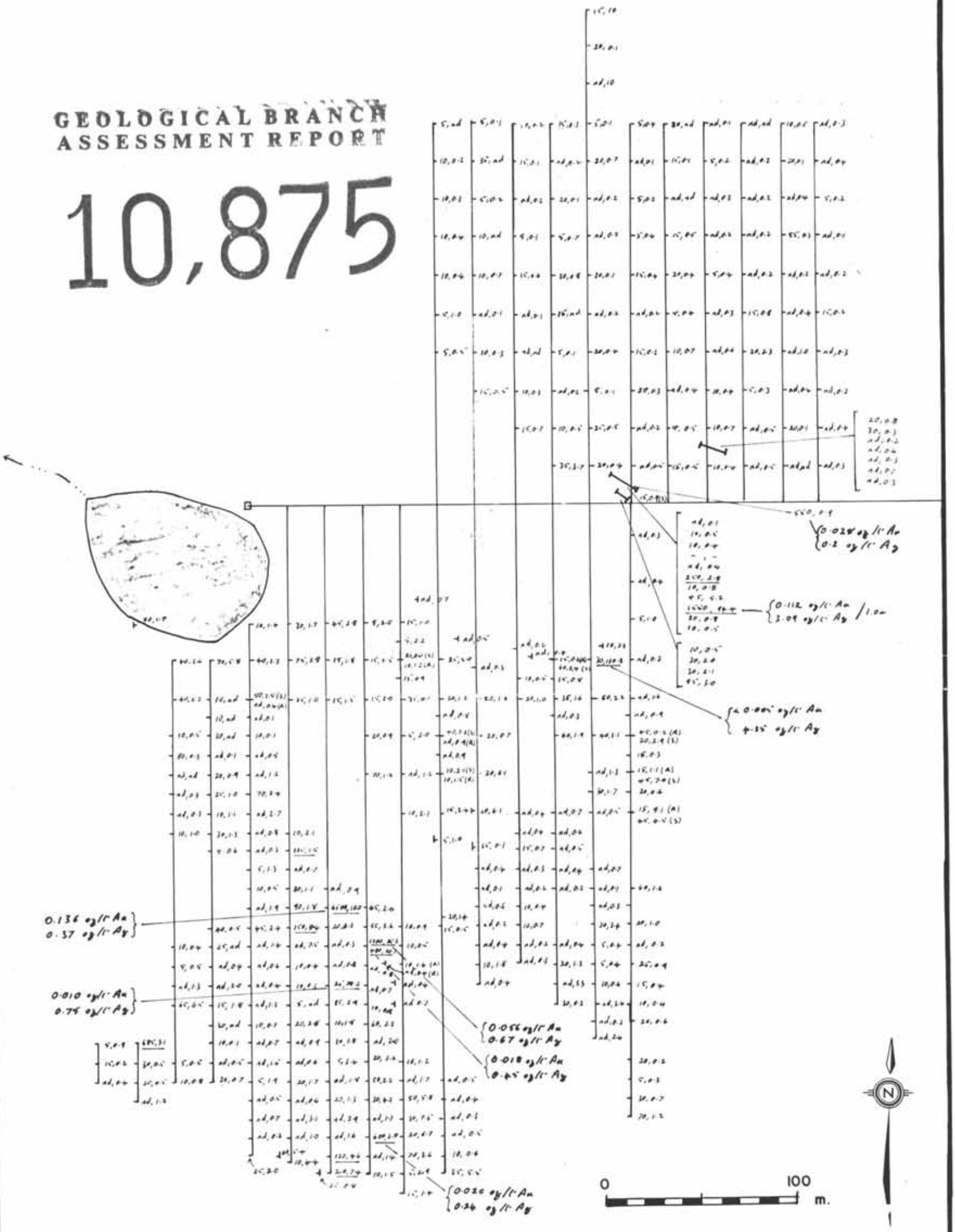
UNION CARBIDE — UNION CARBIDE EXPLORATION CORPORATION

MORAINE LOCALITY
SAMPLE LOCATIONS

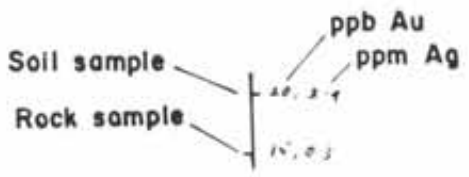
COMPILED BY: n.c.		MAP NO: 10
DRAFTED BY: n.c.	DATE: 15/11/82	SCALE: 1:2,000
DISPOSITION		N.T.S: 93E/11E
PROJECT NO	REPORT NO	

GEOLOGICAL BRANCH
ASSESSMENT REPORT

10,875



LEGEND



Assay values, in troy ounces per ton, are given where available

UNION CARBIDE EXPLORATION CORPORATION

'MORAINE'

ANALYTICAL RESULTS - Au & Ag

COMPILED BY n.c.		MAP NO 11
DRAFTED BY n.c.	DATE 16/11/82	SCALE 1 : 2,000
DISPOSITION		N.T.S. 93 E/11 E
PROJECT NO.	REPORT NO.	

lapilli tuffs

dacitic feldspar-porphyry flows
celadonite alteration

intense argillic alteration

lapilli tuffs

GEOLOGICAL BRANCH
ASSESSMENT REPORT

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0 100 m.

LEGEND

Sample location and number (all sample numbers have 'WT' prefix)
'S' indicates soil sample
'D' indicates silt sample

Stream

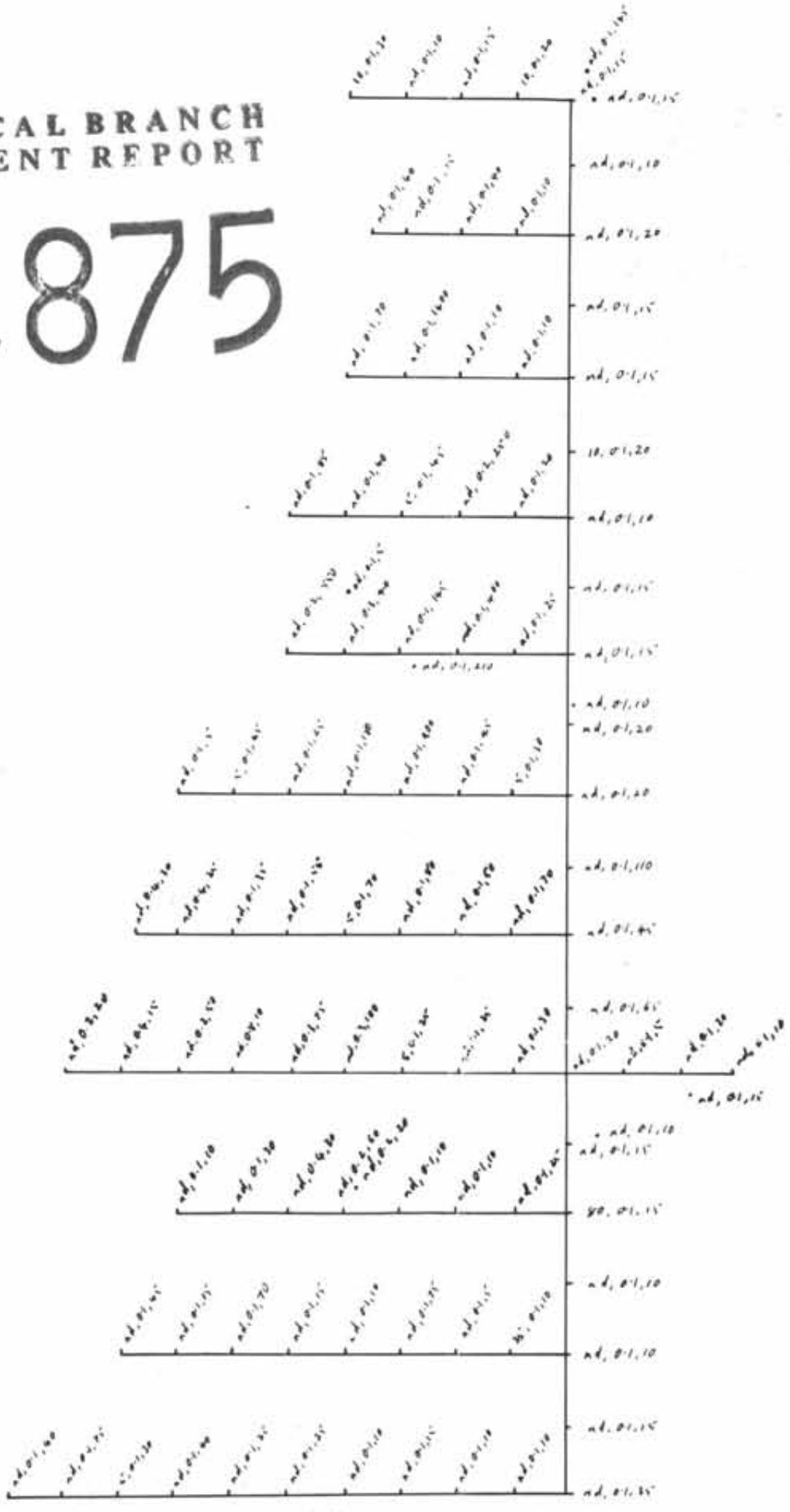
Contour (100 m. interval)

Fault (position approximate)

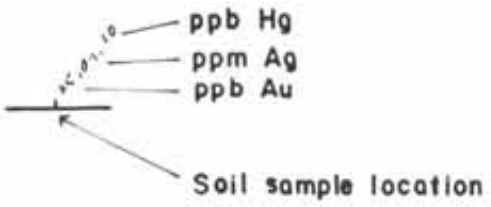
UNION CARBIDE EXPLORATION CORPORATION

SURATT LOCALITY
SAMPLE LOCATIONS

COMPILED BY: n.c.		MAP NO.	12
DRAFTED BY: n.c.	DATE: 16/11/82	SCALE:	1:2,000
DISPOSITION:		N.T.S.	93E/11E
PROJECT NO.	REPORT NO.		



LEGEND

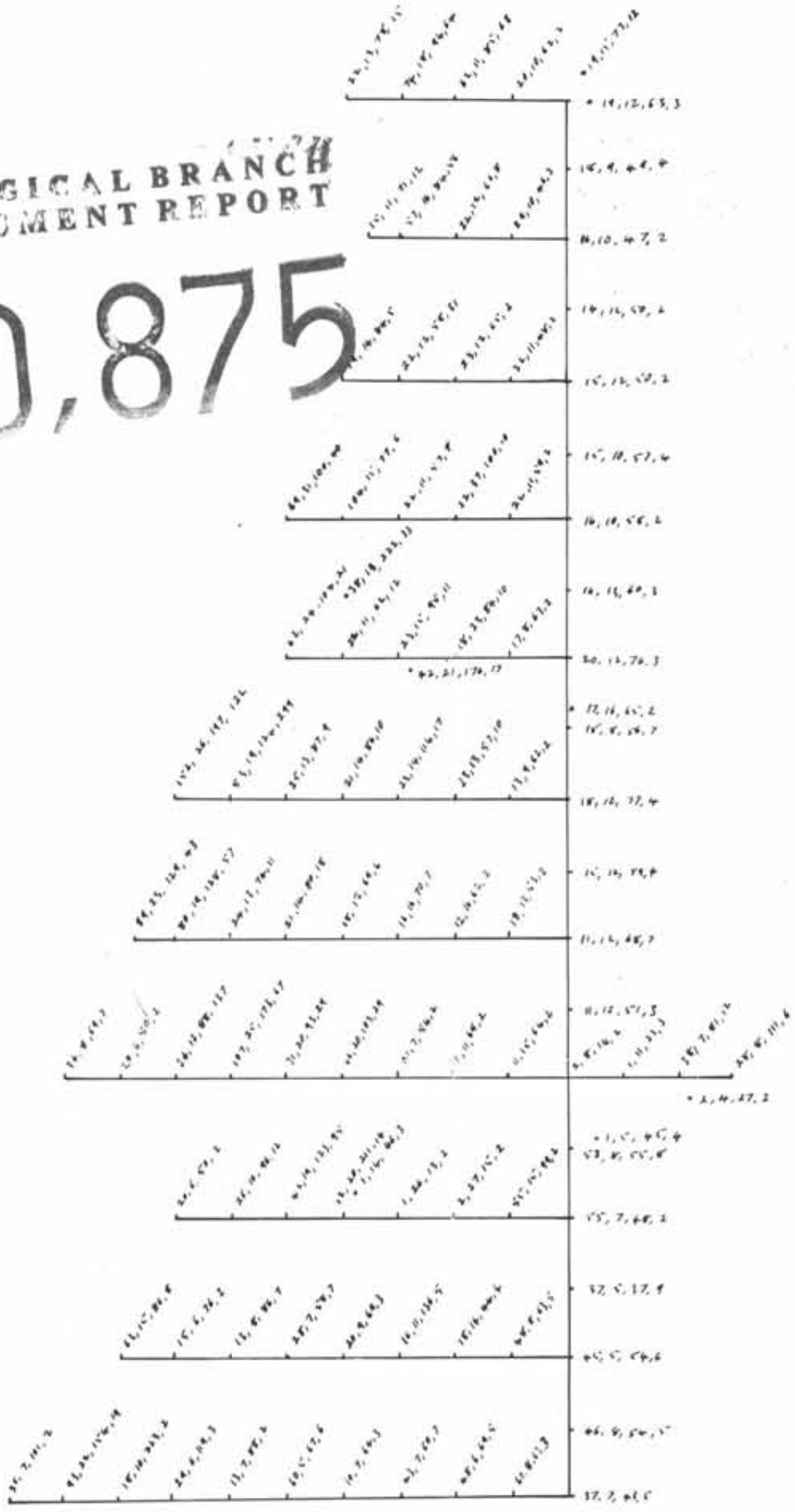


UNION CARBIDE EXPLORATION CORPORATION

'SURATT'

ANALYTICAL RESULTS - Au, Ag, Hg

COMPILED BY: n.c.		MAP NO: 13	
DRAFTED BY: n. c.	DATE: 17/11/82	SCALE: 1 : 2,000	
DISPOSITION:		NTS: 93E/11E	
PROJECT NO:	REPORT NO:		



0 100 m.

LEGEND

ppm As
ppm Zn
ppm Pb
ppm Cu

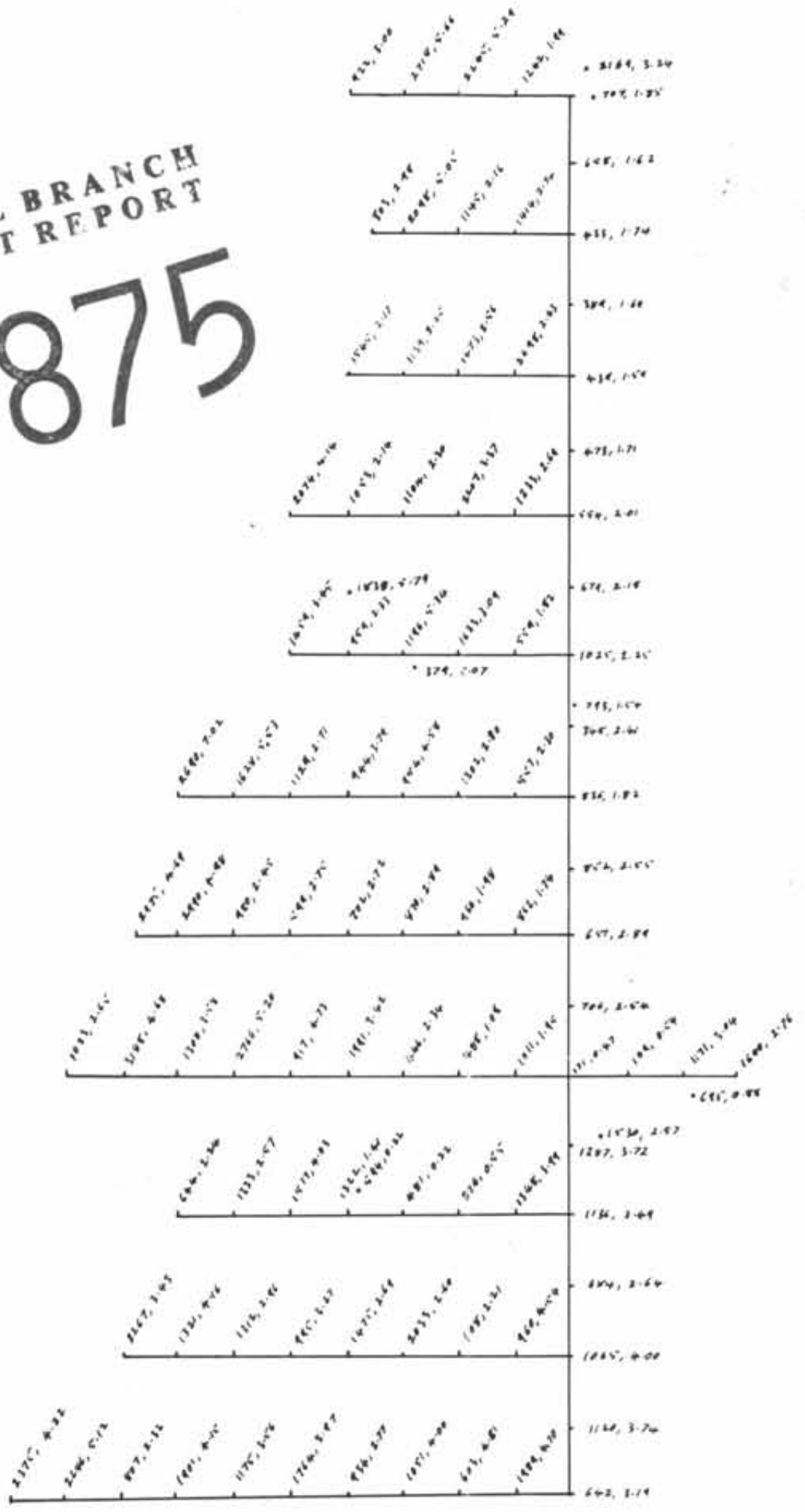
Soil sample location

UNION CARBIDE EXPLORATION CORPORATION

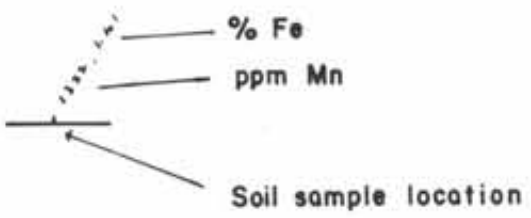
'SURATT'

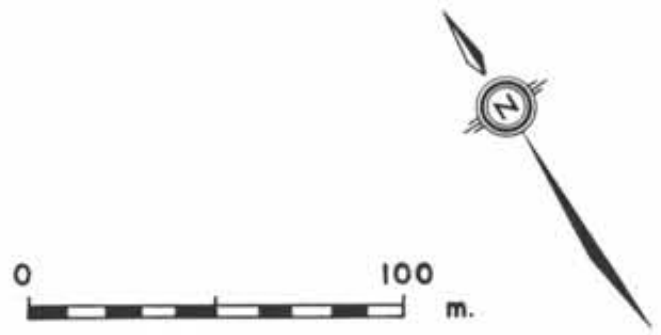
ANALYTICAL RESULTS - Cu, Pb, Zn, As

COMPILED BY: n.c.		MAP NO.	14
DRAFTED BY: n.c.	DATE: 17/11/82	SCALE:	1:2,000
DISPOSITION:		N.T.S.	93E/11E
PROJECT NO.	REPORT NO.		



LEGEND



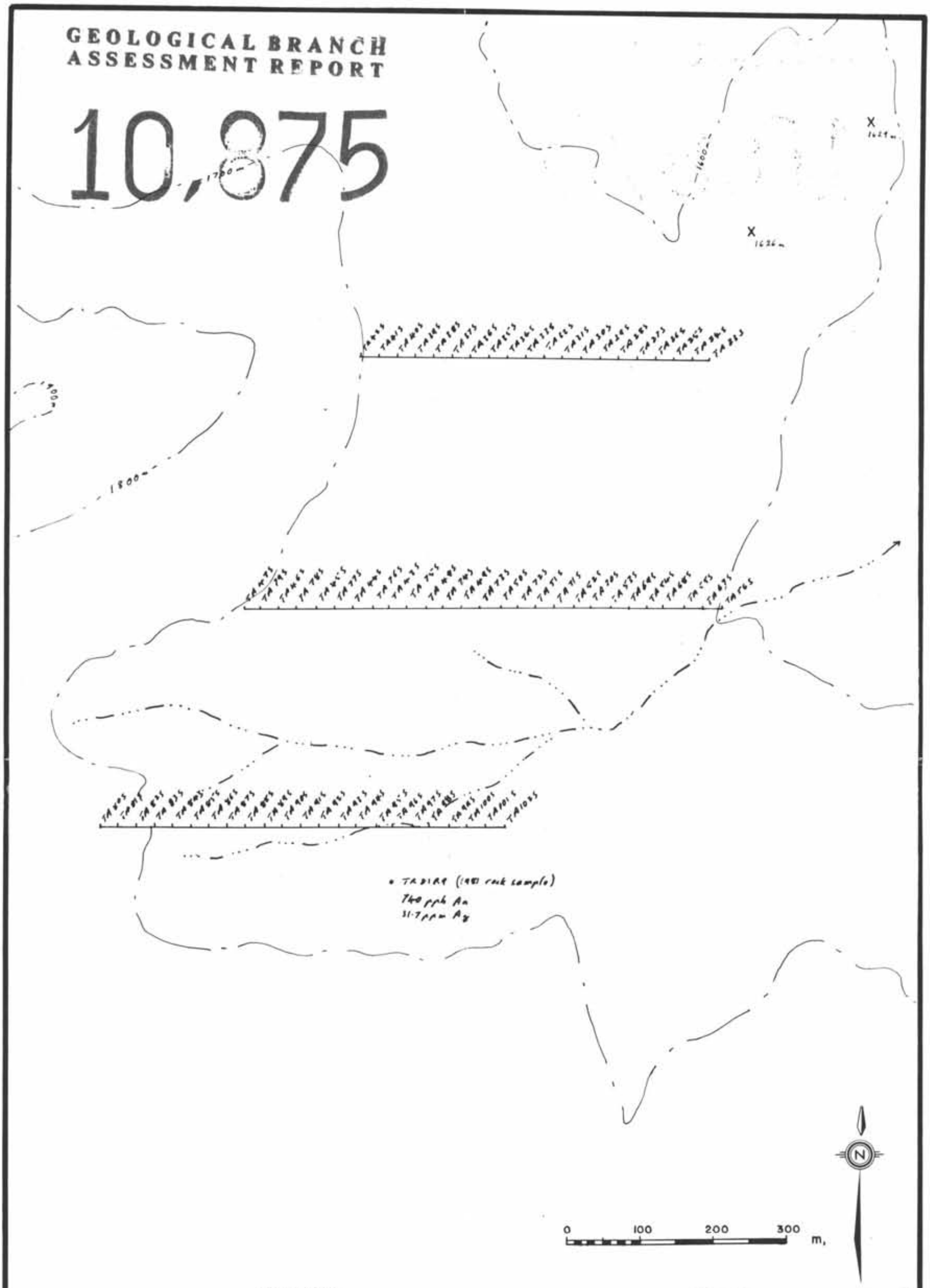


UNION CARBIDE EXPLORATION CORPORATION

'SURATT'

ANALYTICAL RESULTS - Mn, Fe

COMPILED BY: n.c.		MAP NO:	15
DRAFTED BY: n.c.	DATE: 16/11/82	SCALE:	1 : 2,000
DISPOSITION:		N.T.S.	93 E/11 E
PROJECT NO:	REPORT NO:		



LEGEND

TA 013 — Soil sample location & sample number

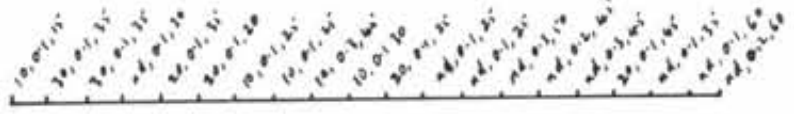
Contour (100 m. interval)

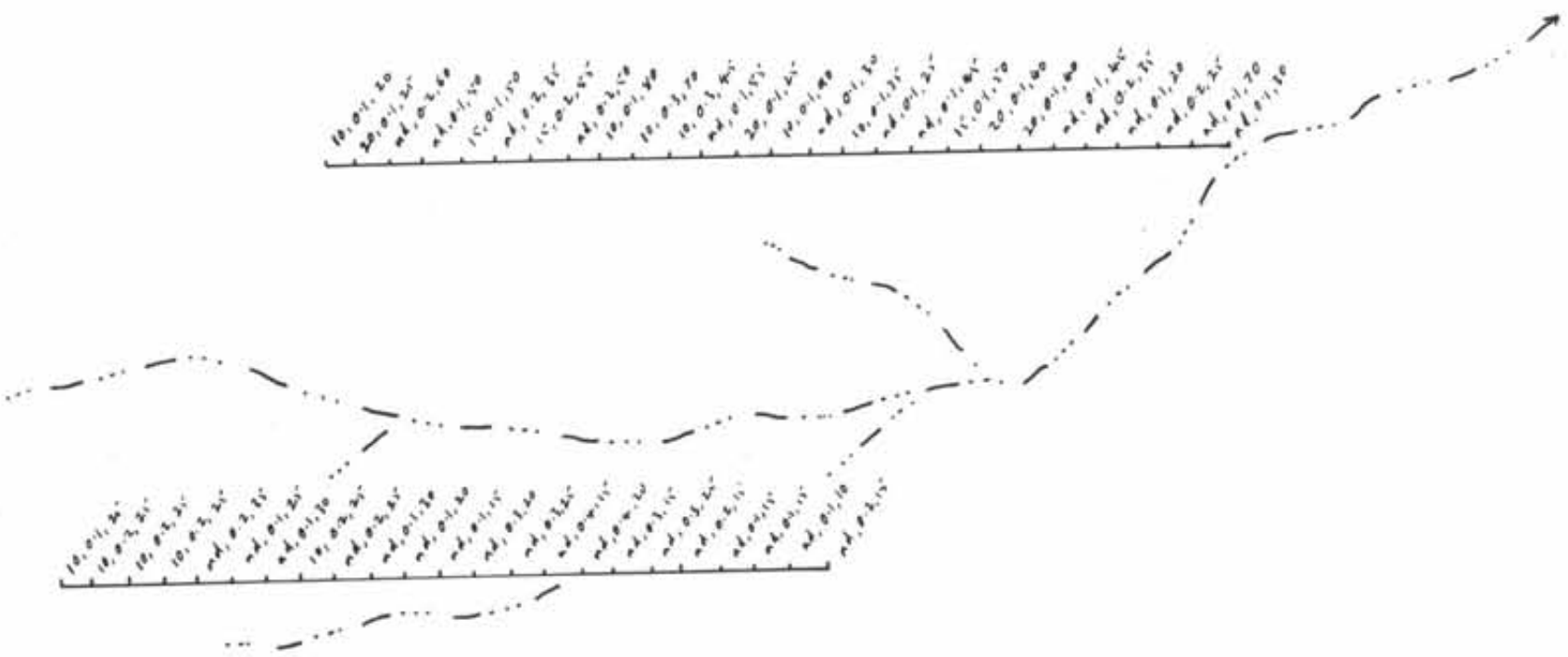
Stream

UNION CARBIDE — UNION CARBIDE EXPLORATION CORPORATION

DISCOVERY LOCALITY
SAMPLE LOCATIONS

COMPILED BY: n.c.			MAP NO. 16
DRAFTED BY: n.c.	DATE 16/11/82		SCALE 1:5,000
DISPOSITION:			N.T.S. 93E /11E
PROJECT NO.	REPORT NO.		





GEOLOGICAL BRANCH
ASSESSMENT REPORT

10,875

0 100 200 300 m.

LEGEND

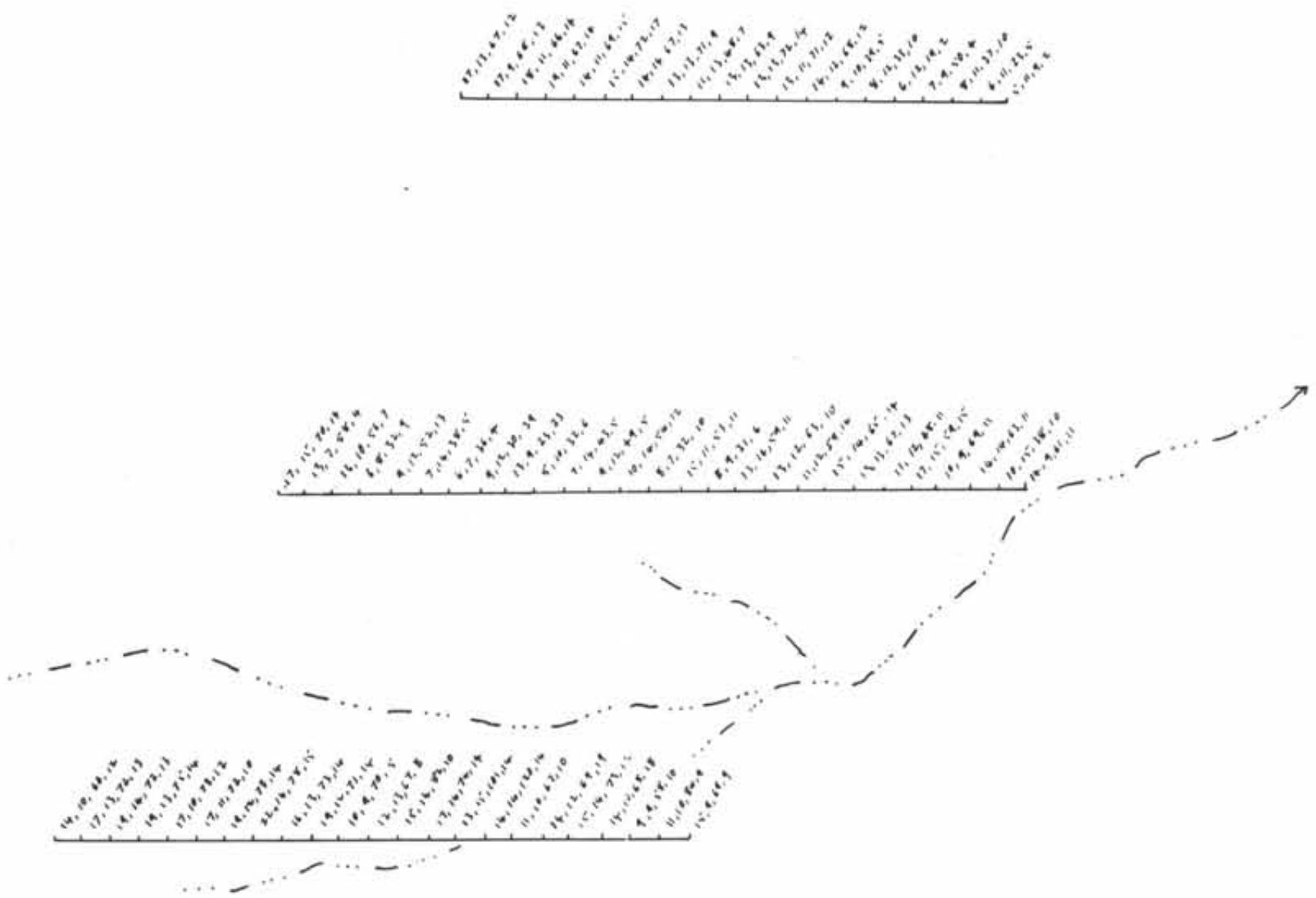
w — ppb Hg
g — ppm Ag
a — ppb Au
Soil sample location

UNION CARBIDE EXPLORATION CORPORATION

'DISCOVERY'

ANALYTICAL RESULTS - Au, Ag, Hg

COMPILED BY: n.c.		MAP NO. 17
DRAFTED BY: n.c.	DATE: 16/11/82	SCALE: 1:5,000
DISPOSITION:		NTS 93E/11E
PROJECT NO.	REPORT NO.	



GEOLOGICAL BRANCH
ASSESSMENT REPORT

10,875

0 100 200 300 m.

LEGEND

ppm As
ppm Zn
ppm Pb
ppm Cu

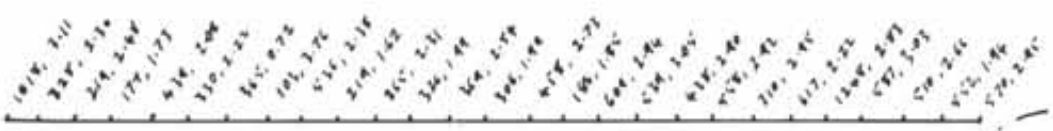
Soil sample location

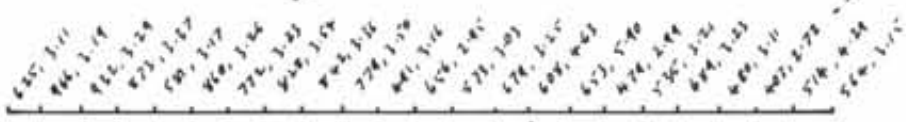
UNION CARBIDE EXPLORATION CORPORATION

'DISCOVERY'

ANALYTICAL RESULTS - Cu, Pb, Zn, As

COMPILED BY n.c.			MAP NO. 18
DRAFTED BY n.c.	DATE 16/11/82		SCALE 1:5,000
DISPOSITION			N.T.S. 93E/11E
PROJECT NO.	REPORT NO.		



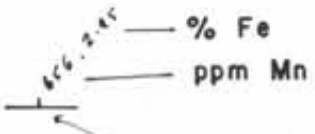


GEOLOGICAL BRANCH
ASSESSMENT REPORT

10,875

0 100 200 300 m.

LEGEND

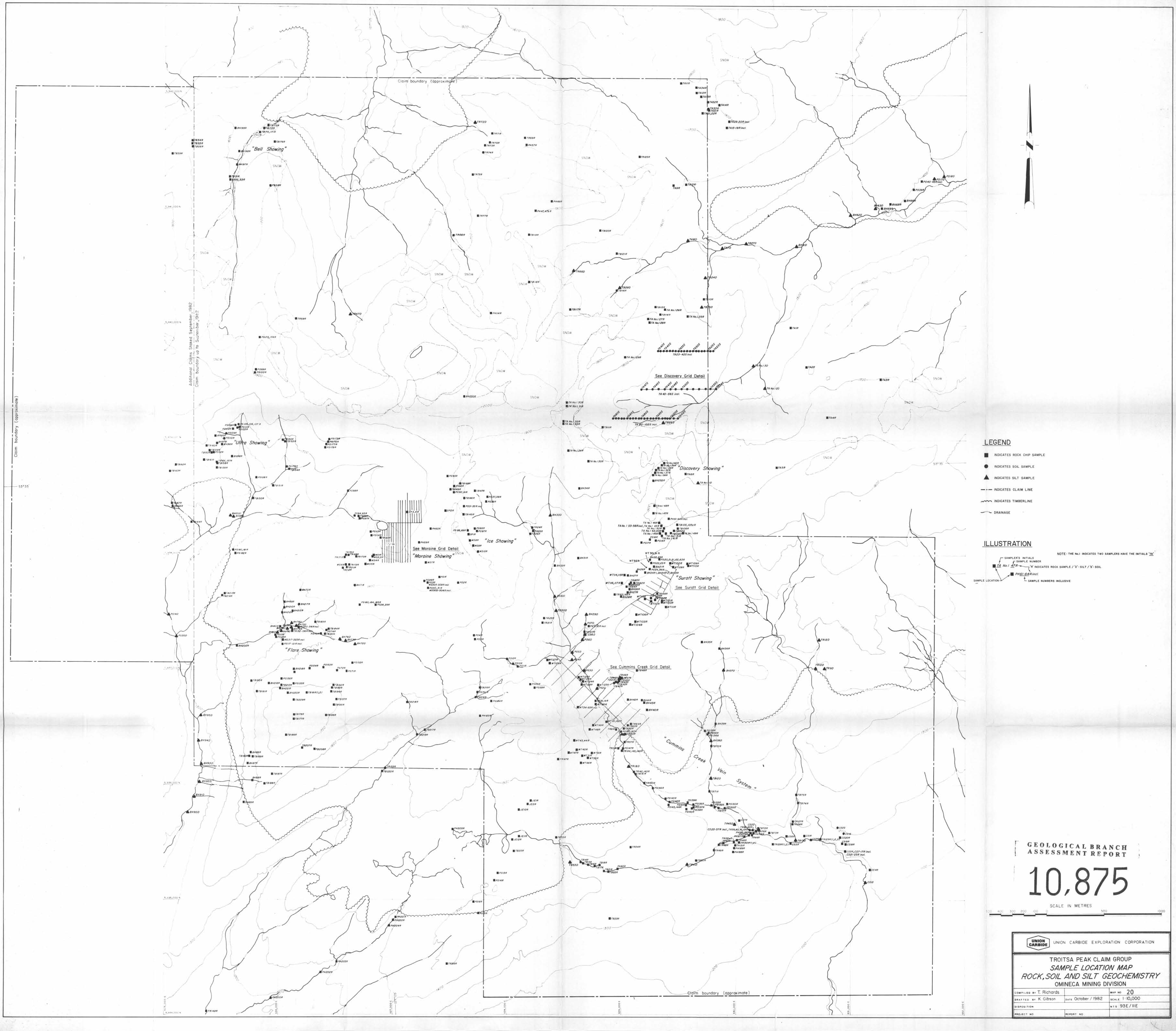


UNION CARBIDE EXPLORATION CORPORATION

'DISCOVERY'

ANALYTICAL RESULTS - Mn, Fe

COMPILED BY: n.c.		MAP NO: 19
DRAFTED BY: n.c.	DATE: 16/11/82	SCALE: 1:5,000
DISPOSITION:		N.T.S: 93E /11E
PROJECT NO:	REPORT NO:	



Claim boundary (approximate)
"Bell Showing"
"Ultra Showing"
"Flare Showing"
"Ice Showing"
See Moraine Grid Detail
"Moraine Showing"
See Discovery Grid Detail
"Discovery Showing"
"Suratt Showing"
See Suratt Grid Detail
See Cummins Creek Grid Detail
"Cummins Creek Vein System"
Additional Claims Staked September, 1982
Claim boundary up to September, 1982
SNOW
LEGEND
INDICATES ROCK CHIP SAMPLE
INDICATES SOIL SAMPLE
INDICATES SILT SAMPLE
INDICATES CLAIM LINE
INDICATES TIMBERLINE
DRAINAGE
ILLUSTRATION
NOTE: THE No.1 INDICATES TWO SAMPLERS HAVE THE INITIALS 'TA'
SAMPLER'S INITIALS
SAMPLE NUMBER
TA No.1 47R
'R' INDICATES ROCK SAMPLE / 'D'-SILT / 'S'-SOIL
PH61-64R incl.
SAMPLE LOCATION
SAMPLE NUMBERS INCLUSIVE
GEOLOGICAL BRANCH ASSESSMENT REPORT
10,875
SCALE IN METRES
500 400 300 200 100 0 500 1000
UNION CARBIDE
UNION CARBIDE EXPLORATION CORPORATION
TROITSA PEAK CLAIM GROUP
SAMPLE LOCATION MAP
ROCK, SOIL AND SILT GEOCHEMISTRY
OMINECA MINING DIVISION
COMPILED BY T. Richards
MAP NO 20
DRAFTED BY K. Gibson
DATE October / 1982
SCALE 1:10,000
DISPOSITION
NTS 93E/11E
PROJECT NO
REPORT NO

Claim boundary (approximate)

Additional Claims Staked September, 1982
Claim boundary up to September, 1982

"Bell Showing"

"Ultra Showing"

"Flare Showing"

"Moraine Showing"

"Ice Showing"

"Discovery Showing"

"Suratt Showing"

"Cummins Creek Vein System"

See Discovery Grid Detail

See Moraine Grid Detail

See Suratt Grid Detail

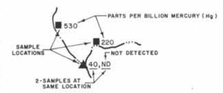
See Cummins Creek Grid Detail

Claim boundary (approximate)

LEGEND

- INDICATES ROCK CHIP SAMPLE
- INDICATES SOIL SAMPLE
- INDICATES SILT SAMPLE
- INDICATES CLAIM LINE
- INDICATES TIMBERLINE
- DRAINAGE

ILLUSTRATION



GEOLOGICAL BRANCH
ASSESSMENT REPORT

10,875

SCALE IN METRES

500 400 300 200 100 0 500 1000

UNION CARBIDE EXPLORATION CORPORATION

TROITSA PEAK CLAIM GROUP
MERCURY (Hg) parts per billion
GEOCHEMISTRY
OMINECA MINING DIVISION

COMPILED BY: N. Cawthorne		MAP NO:	23
DRAFTED BY: K. Gibson	DATE: October / 1982	SCALE:	1:10,000
DISPOSITION:		N.T.S:	93E/11E
PROJECT NO:	REPORT NO:		

Claim boundary (approximate)

Additional Claims Staked September, 1982
Claim boundary up to September, 1982

"Bell Showing"

"Ultra Showing"

"Flare Showing"

"Ice Showing"

See Moraine Grid Detail
"Moraine Showing"

"Discovery Showing"

See Discovery Grid Detail

"Suratt Showing"
See Suratt Grid Detail

See Cummins Creek Grid Detail

"Cummins Creek Vein System"

Claim boundary (approximate)

Claim boundary (approximate)

LEGEND

- INDICATES ROCK CHIP SAMPLE
- INDICATES SOIL SAMPLE
- INDICATES SILT SAMPLE
- INDICATES CLAIM LINE
- INDICATES TIMBERLINE
- DRAINAGE

ILLUSTRATION

PARTS PER MILLION-SILVER (Ag)
ASSAYED-OZ./TON Ag
SAMPLE LOCATIONS
ND
NOT DETECTED

GEOLOGICAL BRANCH
ASSESSMENT REPORT

10,875

SCALE IN METRES

500 400 300 200 100 0 500 1000

UNION CARBIDE EXPLORATION CORPORATION

TROITSA PEAK CLAIM GROUP
SILVER (Ag) parts per million
GEOCHEMISTRY
OMINECA MINING DIVISION

COMPILED BY T. Richards		MAP NO. 22
DRAFTED BY K. Gibson	DATE October / 1982	SCALE 1:10,000
DISPOSITION		N.T.S. 93E/11E
PROJECT NO.	REPORT NO.	

Claim boundary (approximate)

Additional Claims Staked September, 1982
Claim boundary up to September, 1982

"Bell Showing"

"Ultra Showing"

"Flare Showing"

"Moraine Showing"

"Ice Showing"

"Discovery Showing"

"Suratt Showing"

"Cummins Creek Vein System"

See Discovery Grid Detail

See Moraine Grid Detail

See Suratt Grid Detail

See Cummins Creek Grid Detail

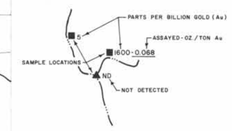
Claim boundary (approximate)

Claim boundary (approximate)

LEGEND

- INDICATES ROCK CHIP SAMPLE
- INDICATES SOIL SAMPLE
- INDICATES SILT SAMPLE
- INDICATES CLAIM LINE
- INDICATES TIMBERLINE
- DRAINAGE

ILLUSTRATION



GEOLOGICAL BRANCH
ASSESSMENT REPORT

10,875

SCALE IN METRES

500 400 300 200 100 0 500 1000

UNION CARBIDE EXPLORATION CORPORATION

TROITSA PEAK CLAIM GROUP
GOLD (Au) parts per billion
GEOCHEMISTRY
OMINECA MINING DIVISION

COMPILED BY T. Richards		MAP NO. 21
DRAFTED BY K. Gibson	DATE October / 1982	SCALE 1:10,000
DISPOSITION		NTS 93E/11E
PROJECT NO.	REPORT NO.	

Claim boundary (approximate)

Additional Claims Staked September, 1982
Claim Boundary up To September, 1982

"Bell Showing"

"Ulitta Showing"

"Flare Showing"

"Ice Showing"

"Moraine Showing"

See Moraine Grid Detail

"Discovery Showing"

See Discovery Grid Detail

"Suratt Showing"

See Suratt Grid Detail

See Cummins Creek Grid Detail

"Cummins Creek Vein System"

Claim boundary (approximate)

53°35'

5,942,000 N
5,941,000 N
5,940,000 N
5,939,000 N
5,938,000 N
5,937,000 N
5,936,000 N
5,935,000 N
5,934,000 N

457,000 E
458,000 E
459,000 E
460,000 E
461,000 E
462,000 E

LEGEND

- ▲ INDICATES SILT SAMPLE
- ■ INDICATES ROCK CHIP SAMPLE
- INDICATES CLAIM LINE
- INDICATES TIMBERLINE
- DRAINAGE

ILLUSTRATION

p.p.m.
Cu, Pb, Zn, As
Cu, Zb, Zn, As
p.p.m.
sample location

GEOLOGICAL BRANCH
ASSESSMENT REPORT

10,875

SCALE IN METRES

500 400 300 200 100 0 500 1000

UNION CARBIDE EXPLORATION CORPORATION

TROITSA PEAK CLAIM GROUP
I.C.P. GEOCHEMICAL ANALYSIS
Cu, Pb, Zn & As - p.p.m.
OMINECA MINING DIVISION

COMPILED BY: N. Cawthorne		MAP NO: 24
DRAFTED BY: K. Gibson	DATE: October / 1982	SCALE: 1:10,000
DISPOSITION:		NTS: 93E/11E
PROJECT NO:	REPORT NO:	

Claim boundary (approximate)

Additional Claims Staked September, 1982
Claim boundary up to September, 1982

"Bell Showing"

"Ultra Showing"

"Flare Showing"

"Moraine Showing"

"Ice Showing"

"Discovery Showing"

"Suratt Showing"

"Cummins Creek Vein System"

See Discovery Grid Detail

See Moraine Grid Detail

See Suratt Grid Detail

See Cummins Creek Grid Detail

Claim boundary (approximate)

LEGEND

- ▲ INDICATES SILT SAMPLE
- ■ INDICATES ROCK CHIP SAMPLE
- INDICATES CLAIM LINE
- INDICATES TIMBERLINE
- DRAINAGE

ILLUSTRATION

Mn, Fe, Sb, Bi — p.p.m.
sample location
Mn, Fe, Sb, Bi — %, p.p.m.

NOTE p.p.m. INDICATES PARTS PER MILLION

GEOLOGICAL BRANCH
ASSESSMENT REPORT

10,875

SCALE IN METRES
500 400 300 200 100 0 500 1000

UNION CARBIDE EXPLORATION CORPORATION

TROITSA PEAK CLAIM GROUP
I.C.P. GEOCHEMICAL ANALYSIS
Mn, Sb & Bi-p.p.m., Fe-%
OMINECA MINING DIVISION

COMPILED BY: N. Cawthorne		MAP NO.	25
DRAFTED BY: K. Gibson	DATE: October / 1982	SCALE	1:10,000
DISPOSITION:		N.T.S.	93E/11E
PROJECT NO:	REPORT NO:		